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The availability of salient and conceptually central properties of concepts in different contexts.

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THE AVAILABILITY OF SALIENT AND CONCEPTUALLY CENTRAL PROPERTIES OF CONCEPTS IN DIFFERENT CONTEXTS

A Dissertation Presented

by

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DEDICATION

To Ed and Grant-thank you for always being there.

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ABSTRACT

THE AVAILABILITY OF SALIENT AND CONCEPTUALLY CENTRAL PROPERTIES OF CONCEPTS IN DIFFERENT CONTEXTS

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This work investigated the ways in which the properties of a concept are activated when that concept is accessed. There has been considerable debate about how closely property information is tied to concepts and under what conditions it is available (e.g., Margolis and Lawrence, 1999). If property information is automatically activated, it should be detectable in both frequency estimation and speeded response tasks. According to Barsalou and Ross' automaticity hypothesis (1986, p.117), "...people become sensitive to the frequency of non-presented information through automatic processing of presented items by well-established memory structures." On this account, if a list of concepts is presented, participants may be sensitive to the frequency of their properties. Therefore, after studying a list of items, participants should be able to estimate the number of items that were "red" or "sweet" without recalling individual items. Naturally, some properties are more important to a concept than others and are more likely to be activated. Sloman, Love, and Ahn (1998) developed a taxonomy of conceptual properties. Using ratings obtained in a variety of tasks, they performed a

factor analysis that revealed three factors: centrality, salience, and diagnosticity. In these studies, I manipulated centrality and salience to appraise their relative importance for the activation of properties. Barsalou's (1982) work on context-independent and context-dependent properties asserts that the activation of properties may be automatic or strategic, depending on the property type. In both a frequency estimation task and a sentence-word priming task, I manipulated context to evaluate whether central or salient properties are context-dependent. In the sentence-word priming task, I was also able to assess degrees of context dependency. I found that: 1) people demonstrated frequency sensitivity to both central and salient properties but were more sensitive to central properties 2) central properties appear to be activated faster than salient properties as indicated by the slopes in the frequency estimation task and reaction times in the sentence-word priming task 3) the activation of both central and salient properties appear to be context-dependent or situated (Barsalou, 2000), with the activation of central properties being moderately context-dependent and that of salient properties, highly context-dependent.

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CHAPTER 1

INTRODUCTION

> "A great deal of research on the psychology of concepts has been directed at their componential structure, especially as it relates to categorization. Virtually everyone believes that concepts should be analyzed in terms of constituent attributes or features. For example, the concept of stallion may be understood in terms of features such as animate, four-legged, male, adult, and so on. Thus, the criteria for kinds of concepts based on structural differences would be based primarily on differences in the kinds of features in a concept and the relations among these features." --Medin, Lynch, and Solomon (2000), p. 123.

What kind of information is available when we access a concept? The debate over how we store, learn, and think about concepts has continued from the 1950's (Bruner, Goodnow, & Austin, 1956), through the work of Eleanor Rosch (1978), and continues up to the present (Medin, Lynch, & Solomon, 2000). The main purpose of this dissertation is to explore what kind of property[1] information is activated with a concept and whether the kind of property information that is activated differs depending on the context or task.

This work set out to examine whether certain kinds of properties are automatically activated when a concept is processed regardless of context, or whether what is activated is crucially dependent on context. In Barsalou's (1982) work on context-independent and context-dependent properties, he argued that "context-independent properties form the core meanings of words" (p. 82) and are activated regardless of context. Only context-dependent properties appeared to be affected by what Barsalou called contextual relevance. However, recently Sloman and Ahn (1999) argued that both tasks and context could affect a property's centrality. They stated that,

[1] Hereafter, properties and features will be used interchangeably.

"the centrality of a category's feature is relative to the function being served by the category. The importance of a feature depends not only on the identity of the feature and its relation to other conceptual features, but also on the goal of the agent using the concept"(pp. 534-535). Therefore, it seems that Sloman and Ahn might predict that conceptual cores are not rigid but can change, given the task, agent, or the context, implying that all properties are context-dependent.

Conceptual Centrality, Salience and Diagnosticity: Defining Kinds of Properties

Recent work on features and properties (e.g. Ahn, 1998; Corter & Gluck 1992; Estes & Glucksberg, 2000; Malt, Ross, & Murphy, 1995; Markman & Wisniewski, 1997; Sloman, Love, & Ahn, 1998; Wisniewski & Love, 1998) has demonstrated convincingly that there are different kinds of properties. Sloman et al. found that salience, diagnosticity, and centrality were important for predicting behavior in a wide variety of cognitive tasks, including prediction, induction, inference, categorization, and conceptual combination. It seems reasonable, therefore, that salient, central, or diagnostic properties may differ in their availability when concepts are accessed in a natural setting. Sloman et al. defined all of these factors and these are the definitions used in these studies.

What are centrality, diagnosticity, and salience? First, Sloman et al. (1998) talked about two types of centrality. Conceptual centrality[2] was defined as how central a property was in a network of the concept's properties. The more properties in memory that are tied to (dependent upon) a specific feature, the more conceptually

[2] Sloman, Love, and Ahn (1998) use the terms conceptual centrality and immutability somewhat interchangeably, but for the sake of consistency, I primarily use the term conceptual centrality.

central that property is. Sloman et al. argued that highly mutable features were not related to a concept's coherence but more immutable, conceptually central features were. For example, "lays eggs" would be a more conceptually central property of hen engine than "is brown". Conceptual centrality "represents the degree to which the feature is integral to the mental representation of an object." (Sloman et al., p.190).

Conceptual centrality may be measured by surprise, using questions such as *how surprised would you be to find an item of concept x that did not have feature y* (Sloman et al., 1998)? It can also be measured with "ease-of-imagining", "goodness-of-example", and "similarity-to-an-ideal" questions. "Ease-of-imagining" can be measured using questions of the type *how easily can you imagine a real x that does not have property y*? "Goodness-of-example" questions ask *how good an example of an x would you consider an x that did not ever have property y*? Lastly, "similarity-to-an-ideal" may be measured with the question *how similar is an x that doesn't have property y to an ideal x*?

The other type of centrality, category centrality relates to the "boundaries of a category's feature space." (Sloman et al., 1998, p. 192) and is defined as the variability of properties of concepts in the world (as opposed to in memory). It often is indistinguishable from conceptual centrality but is measured differently than conceptual centrality. Whereas conceptual centrality deals with the intension of the category, category centrality deals with the extension of a category. Sloman et al. used two question types to measure category centrality: counterfactual naming and variability. Counterfactual naming questions ask *would something be called an x even if it did not ever have property y*? Variability asks for something akin to category validity (i.e.,

Pr(feature|category)) by asking questions of the type *what percentage of x's have property y*? However, because a factor analysis by Sloman et al. demonstrated that conceptual and category centrality were virtually indistinguishable, these two factors were collapsed into one for the purpose of these experiments.

Diagnosticity, another property type assessed by Sloman et al. (1998), refers to how informative a property is for a category in relation to its informativeness for other categories in the set of categories that have that property (i.e., Pr (Category1|Feature) / Pr(Set of categories with property *x*|Feature)). It also refers to what they call the inferential potency of a property, or how many features a given property allows us to infer. As an illustration of how centrality differs from diagnosticity, *round* may be conceptually central (immutable) for basketball, but it has little informativeness because many other things are round, and therefore is not highly diagnostic. However, *round* is somewhat inferentially potent beeause it allows us to infer that something can roll. Diagnosticity can be measured using cue validity questions of the sort *of all the things that have property y , how many of them are x's?* It can also be measured via inferential potency questions of the type *what proportion of an x's features would you predict would be present if all you knew about the object was that it had property y?* It should be noted that diagnosticity seems to be most relevant when a context is defined. For example, "are blue" is primarily diagnostic for blueberries in the context of fruits, but is not diagnostic when the context of "other fruits" is not defined. Because of this limitation, diagnosticity was not systematically manipulated. However, to ensure against possible confounding of diagnosticity with centrality and salience, diagnosticity was roughly equated in all lists of items.

Lastly, salience refers to the "intensity" of a feature, regardless of context. For example, the red color of a fire engine may be salient, but it certainly isn't a diagnostic or conceptually central property of fire engines. It is measured both by prominence and by availability questions. Prominence questions ask *how prominent in your conception of an x is it that it has property y*? This is similar to what Barsalou (1982) used to measure context-independent properties. Availability is usually measured through speeded responses using yes/no questions such as *an x has property y*.

Sloman et al. (1998) asked participants to rate attributes on questions designed to measure conceptual centrality, category centrality, diagnosticity, and salience (see Table 1). They found that there were three factors measured by these questions, and these three factors corresponded to centrality, diagnosticity, and salience. However, although Sloman et al. were able to demonstrate that people could differentiate centrality, salience, and diagnosticity, they did not explore the specific role these factors play in our memory for concepts.

So, how might these different factors influence the availability of properties when concepts are activated? Sloman et al. (1998) stated, "mutability judgments are derived from thinking about the internal structure of concepts." Because of how important conceptually central (immutable) properties are, and how intertwined they are with other properties of a concept, conceptually central properties may be activated when a concept is processed.

Some work has shown that in the interpretation of metaphor and in conceptual combination, we generally do not map onto conceptually central properties (Love, 1996). For example, when interpreting *frog car* people generally do not map "hops"

onto "car" because the motion of a car is conceptually central and so relatively immutable, but they may map "green" onto "car" because color is a much less conceptually central property of cars. When making inductive inferences, we are also

Table 1. Measures for Different Conceptual Property Distinctions

1.	**Conceptual centrality/mutability**
a)	How surprised would you be to find an item of concept x that did not have feature y?
b)	How easily can you imagine a real x that does not have property y?
c)	How good an example of an x would you consider an x that did not ever have property y?
d)	How similar is an x that doesn't have property y to an ideal x?
2.	**Category centrality**
a)	Would something be called an x even if it did not ever have property y?
b)	What percentage of x's have property y?
3.	**Diagnosticity**
a)	Of all the things that have property y, how many of them are x's?
b)	What proportion of an x's features would you predict would be present if all you knew about the object was that it had property y?
4.	**Salience**
a)	How prominent in your conception of an x is it that it has property y?
b)	An x has property y? (speeded)

more likely to project conceptually central features than less central ones (Sloman et al., 1998). Therefore, it seems as though people are able to selectively access the centrality of properties in order to perform these tasks.

However, it is also possible that salience increases the likelihood that a property would be accessed when a concept is activated. There are a number of experimental results that demonstrate the importance of salience. Tversky and Hemenway (1984) pointed out that when participants were asked to generate parts of objects, they tended

to generate properties that were perceptually salient in addition to properties that were functionally significant.[3] Johnson and Mervis (1998) found that novices rely heavily on perceptually salient features, and it is these features that tend to most influence novices' similarity decisions. In Billman and Heit's focused sampling model (1988) the probability of choosing a property is dependent on its salience. Kersten and Billman (1997) examined the effect of correlational structure on event category learning, and they found that although participants had an easier time learning a rule embedded in a rich correlational structure, rules that dealt with salient attributes were easier to learn than those which dealt with less salient attributes. Kersten, Goldstone, and Schaffert (1998) found that what they call an attentional persistence mechanism increases attention to those properties that are known to be salient.

Lastly, Lamberts' (1995) work on the Extended Generalized Context Model (EGCM) has examined when and how salient and central properties are accessed when concepts are activated. The EGCM is a process model of categorization of the time course of categorization that makes specific predictions about how different kinds of properties (stimulus dimensions) affect categorization. In the EGCM, categorization is contingent upon similarity, and similarity is computed as a function of time based on two critical aspects of stimuli: perceptual salience and utility/informativeness. Higher perceptual salience results in earlier featural inclusion and utility, which is similar to centrality, affects similarity but is not linked to processing time. Therefore, the EGCM predicts that salience influences categorization decisions early in processing, but

[3] It is interesting to note that children pay attention to salient properties prior to when they attend to functional significance. The implications for property availability in children is an interesting question (but see also Mervis & Greco, 1984).

centrality primarily impacts categorization decisions later in processing. Lamberts has demonstrated, in accord with the predictions of the EGCM, that for concepts learned in a laboratory setting, rapidly-made category decisions are based on the perceptually salient features of the item, but later responses are based more on the utility value of a dimension.

However, it is important to note that Lamberts' work dealt primarily with responses made under time pressure. Because people in more naturalistic settings typically have time to access a concept as they go about their daily lives, it is important to study the kind of information that is available when a concept is fully accessed in natural settings. In addition, Lamberts' used only artificial categories with a limited number of dimensions that were learned in a laboratory setting. Although these types of category learning tasks offer experimenters a great amount of experimental control, there are also a number of criticisms that can be levied against these types of experiments. First, participants in the laboratory may rely on strategies to encode studied exemplars that would not be used when learning about concepts in a natural setting. Participants are also given feedback during category learning tasks that is typically not given in natural settings. These strategies and feedback may lead participants to encode features and use these features differently than they would for concepts that are more naturalistic. Thus, the kinds of property information that are available for concepts stored in long term memory may well be different than the kinds of property information shown to be available for categories learned in a laboratory setting. These studies will look at how different property types are activated for more natural concepts. Lastly, although the work of Lamberts examines which kinds of

properties may be available when a concept is activated, it does not examine how different property types are affected by different contexts.

It seems reasonable to think that different contexts may systematically alter the kind of properties that become active for a concept. In this work, I hope to provide a more principled demonstration as to how different kinds of properties are activated in different contexts. For example, *round* is a "stable" or what Sloman et al. (1998) might call a conceptually central property of basketball. Barsalou (1982) would also say that round is a context-independent property of basketball. However, Medin et al. (2000) and Barsalou (1983) also point out that less central properties such as *floats* may be accessed for basketball in the context of an ad hoc category for which buoyancy is important. Barsalou (1982) would call this a context-dependent property of basketball. For example, the goal-derived category "things to take from a boat when it is sinking" may highlight or activate the property *floats* in service of the goal of saving oneself from drowning, which in turn may activate or resonate with the property *floats* for concepts such as basketball. This seems to demonstrate that different contexts could potentially alter the availability of property information.

Frequency Tasks as a Measure of Property Activation

What kind of task might be useful to explore the kinds of properties that are available when a concept is activated in memory? It has been shown that people are able to accurately estimate the frequency of non-presented information implicitly expressed in presented items. Barsalou and Ross (1986) showed this to be the case for superordinate categories. Therefore, participants may be able to estimate the frequency of items that have a specific property without having to consciously retrieve the item. If

so, this would seem to suggest that property information becomes available from concepts when that concept is activated, whether people directly encode frequency information (Hasher & Zacks, 1979; Jonides & Jones, 1992) or access frequency information in a more indirect manner (Williams & Durso, 1986; Jonides & Navch-Benjamin, 1987; Hintzman, 1988; Brown, 1995; Brown, 1997).

There has been no evidence that people are sensitive to property frequency. As noted above, some studies have demonstrated sensitivity to the frequency of superordinate categories (Alba, Chromiak, Hasher, & Attig, 1980; Barsalou & Ross, 1986; Williams & Durso, 1986) in a list of learned items, even though participants were never shown the superordinates during the list presentation. However, Barsalou and Ross and others (Sanders, Gonzalez, Murphy, Liddle & Vitina, 1987; Spalding & Murphy, 1999; Wattenmaker, 1993) have found no evidence that properties of concepts were automatically activated when an item was encountered. Spalding and Murphy, and Wattenmaker found that when participants learned artificial exemplars presented as feature lists to participants during a learning phase, these participants could accurately estimate the frequency with which a property appeared in these items. However, these experiments presented the properties explicitly, and so are not demonstrations of sensitivity to implicitly presented information.

Barsalou and Ross (1986) argued that this failure and that of others to demonstrate sensitivity to property frequency occurred, not because properties were not activated when a concept was processed, but rather that sensitivity to property frequency requires completion of both stages of a two-stage process. In the first stage, properties need to be automatically activated as an item is encountered. In the second

stage, this activated property information must also interact with a pre-existing memory structure to have people demonstrate sensitivity to frequency information. Barsalou and Ross argued that because we don't often deal with properties in their own right, we do not have very well developed memory structures for properties, and therefore do not complete the second stage of processing.

Barsalou and Ross (1986) explained their success in demonstrating sensitivity to superordinate frequency by arguing that, unlike property information, superordinate information is represented in memory in these pre-existing structures along with the item information. They stated that, "items belonging to the same superordinate are processed together sufficiently often that strong relations develop between items and later enable sensitivity to superordinate frequency. In contrast, items sharing the same property may not be processed together, the result being the interitem relations necessary for frequency sensitivity never develop" (Barsalou and Ross, p.129). Their argument was that we don't often think about the kinds of things that belong to the property *sweet* but we often use the superordinate *furniture*. This is why, they reason, subjects are able to complete both stages of processing necessary to demonstrate sensitivity to superordinate frequency but not property frequency. Barsalou and Ross concluded, "...although both superordinates and properties are automatically activated, only superordinates possess the kind of representation whose activation results in frequency sensitivity." (Barsalou and Ross, p.127).

Looking at how to design a frequency estimation task to measure automatic sensitivity to property frequency, it is important to be aware that people use two types of estimation strategies when judging frequency: enumeration and non-enumeration

(Williams & Durso, 1986; Brown, 1995). Enumeration occurs when people can consciously retrieve specific items for each category, whereas non-enumeration occurs when there is no conscious retrieval. In previous research, decreasing the response time during a frequency estimation task did not decrease the accuracy of frequency estimates (Williams & Durso, 1986), but did increase the likelihood that participants used more automatic, non-enumeration processes. Therefore, when analyzing results from frequency estimation studies, they must be analyzed in two ways. First, they should be analyzed without regard to reaction times to see if there is any sensitivity to property frequency regardless of estimation strategy. In addition, because the goal of these studies was to look at the kind of properties that are automatically activated in "neutral" and biasing contexts, results should be analyzed with respect to reaction times to ensure that they do not increase with increasing frequency.[4]

Some Problems with Earlier Research

Barsalou and Ross (1986) tried and failed to demonstrate sensitivity to property frequency. However, there were a number of problems with their study. First, some of the items chosen by Barsalou and Ross were not very good examples of their categories. For example, for the property "pointed" they used the items "sword", "nail", "porcupine", and "pineapple". The first two items seem to be good examples of things with the property "pointed", but the last two are not very good examples. In fact, if I had to pick a property to describe both pineapples and porcupines, I would probably use the word "prickly", not "pointed". If Barsalou and Ross were trying to be exact, they

[4] These non-enumeration processes have been divided into those that deal with direct retrieval of frequency information and those that deal with memory assessment (Brown, 1995), but this distinction will not be dealt with in these studies.

should have noted that only the quills of the porcupine and the scales of a pineapple have points.

A second criticism is that many items used on their lists belonged to not just one property category. Indeed, often items belonged to both a superordinate and a property category. Therefore, what was intended by Barsalou and Ross (1986) to be the frequency of a specific category may not have been the actual frequency of that category when all of the items that should have been on that list are counted. For example "poisonous" was one of the property categories they used. It included one item: carbon monoxide. However, ammonia, which can also be poisonous, appeared on the list under the category "smells". "Attacks" was supposed to be an empty property category, but the item "owls", which is an example of an animal that attacks, was on the list under the superordinate "birds". On a different list, "liquids" was designated as an empty category. However, on the same list, under various categories, were the items cider, cola, stream, and vinegar which all could be considered to have the property "liquid".

In addition, Barsalou and Ross (1986) alluded to the fact that they may not have found an effect for properties because of their choice of items and properties. They noted that the properties they chose might have had different ***senses***. For example, they pointed out that their items for the property "smells", which included garlic, perfume, coffee, and skunk, might have all instantiated different senses of the property "smell". Garlic is smelly but not putrid, perfume can be sweet- or spicy-smelling, coffee has a strong odor, and skunks just plain stink. It might be the case that if items were chosen that instantiated the same sense of the property (for example four items that "have a bad

smell"), these might be more likely to be represented in well-established memory structures. Then, participants might be more likely to show sensitivity to these properties.

Frequency Sensitivity as a Measure of Property Activation

However, what if sense is not the factor that influences what is stored along with concepts in well-represented memory structures? What other kind of distinctions might be relevant and important to consider when thinking about the kind of properties that would be activated in memory along with concepts? As pointed out above, some properties are more important for an item than others are, and the centrality and/or salience of the property may determine whether or not it is activated. If central or salient properties were automatically activated, this would be in accord with Barsalou and Ross' automaticity hypothesis (1986), which stated that people should be automatically sensitive to context-independent properties (Barsalou, 1982).

In this dissertation, I examined conceptually central and salient properties and their availability for concepts in different contexts. I used a frequency sensitivity task to examine property activation. Two alternative hypotheses were used to guide this research. First, because some work indicates that conceptually central features seem to be important for concepts (Sloman et al., 1998), participants given lists of items that have the same conceptually central property may be able to directly estimate the frequency of items with that property. Alternatively, because other research indicates that salient features are more prominent than less salient features, when concepts are activated participants may demonstrate a greater sensitivity to the frequency of items with the same salient property. Therefore, I used two types of items, one type rated

high on centrality and low on salience and another type rated high on salience and low on centrality, the purpose of which was to increase the likelihood of finding sensitivity to property frequency.

Property Verification as a Measure of Property Activation

It is important to note that although the frequency estimation task might demonstrate that people are sensitive to implicitly presented properties, because the number of frequencies that can be presented is limited, the task may not be sufficiently sensitive to reveal small differences in activation between salient and conceptually central properties. Because a property verification task uses reaction time data, it should be more capable of detecting smaller differences in degrees of context dependence.

Defining Context in Frequency Estimation and Property Verification Tasks

To examine property sensitivity in different contexts, the type of orienting task used defined the context. I used "neutral", salience–biasing, and centrality-biasing contexts. It should be noted that in Experiment 3, "context" referred to the instructions participants received to induce them process the items in different ways, whereas in Experiment 4 context was used to refer to sentence context. It is theoretically unclear whether people will be sensitive to the frequency of salient and central properties in a "neutral" context. Although Barsalou (1982) argued that there are context-independent properties that become active in any context, it is possible that participants might only show sensitivity for different kinds of properties of items when they process them in particular ways. In addition, if a similar pattern of results is found for both the frequency estimation task and the property verification task, this will provide

converging evidence about which types of properties are activated and under what conditions.

Experimental Design Summary

This research consisted of three components:

(1) First, appropriate stimulus material were generated. In two preliminary studies, participants generated lists of concept-property pairs, and then a second group of participants rated the properties for centrality, salience, and diagnosticity with respect to the concepts, using the procedures of Sloman et al. (1998). The goal of these preliminary studies was to obtain concepts with properties that varied in centrality and salience while equating the degree of diagnosticity. From this, I was able to develop lists of high centrality/low salience properties and low centrality/high salience properties.

(2) Next, the availability of property information was investigated using a frequency-estimation task. According to the automaticity hypothesis of Barsalou and Ross (1986), participants may be directly sensitive to the frequency of their properties. If so, after presentation of a list of items, participants should be able to estimate the number of presented items having certain properties without recalling the individual items.

Of course, as pointed out above, some properties are more important to a concept than others, and are therefore more likely to be activated. In addition, simply presenting a list of concepts may not be adequate to activate their property information. It might be necessary, in order to make contact with the memory structures that underlie sensitivity to frequency information, for items be processed in a context that facilitates

activation of property information. Therefore, the frequency estimation experiment was conducted with two between-subject factors: property type (two levels) and orienting task (three levels). The property type manipulation varied the centrality and salience of the properties to the categories, using the high salience and high centrality lists developed earlier. There were also three orienting tasks. Participants were presented with a list of items and were told to either (1) learn them for free recall; (2) develop an image of each item; or (3) consider the purpose and function of each item.

It was hypothesized that if property activation is context-independent, participants should show sensitivity to property frequency in a "neutral" context. However, if participants do not demonstrate sensitivity to frequency for either property type in the "neutral" context, then the orienting tasks in which participants form an image or consider the internal structure of an item should bias participants to be sensitive to salient and conceptually central properties, respectively.

(3) The final experiment consisted of a speeded property verification task. Because frequency estimation tasks can be relatively insensitive, small differences in property activation for the two different types of properties may not be detectable. It was hoped that a task in which a speeded response was made to indicate whether an item has a certain property would be able to detect these small effects.

In this study, there were two within-subject factors (type of sentence frame and property type). Participants were given sentence frames (4 levels) with a subject noun underlined and were asked to verify whether a property (2 levels) appearing on the computer screen after the sentence presentation belongs to the subject noun. Each subject noun was paired with each level of property: a high salience property and a high

centrality property. In addition, to measure the effect of different contexts, three different biasing sentence contexts were constructed for each subject noun: a salience-biased sentence context, a "neutral" sentence context, and a centrality-biased sentence context. In addition, in a matched set of "true" control sentences, each property was paired with a less highly related subject noun, for a total of 4 levels of "true" sentence frames. An equal number of non-matched, "false" property verification sentences were also tested.

It was hypothesized that if salient or conceptually central properties are context-independent, as defined by Barsalou (1982), reaction times should be the same regardless of sentence context (for "true" sentences). If either salient or conceptually central properties are context-dependent, it was further hypothesized that there may be varying degrees of context-dependence. If so, different patterns of response times should be associated with the degree of context-dependence. For high context-dependence, reaction times should be shortest in the appropriate biasing context and longer in all other contexts, but for moderate context-dependence reaction, times could be equally short in both an appropriate biasing context and a "neutral" context and longer only in a different biasing context.

To conclude, the main questions asked in this dissertation include the following: (1) Are conceptually central or salient properties more likely to be context-dependent? (2) What factors influence the availability of properties? Can different types of processing make different kinds of properties more accessible? (3) Lastly, are there degrees of context-dependency?

CHAPTER 2
ITEM GENERATION AND SALIENCE & CENTRALITY RATINGS FOR PROPERTIES

Preliminary Experiments

One purpose of this research was to investigate whether people are able to estimate frequency for "non-presented" information -- specifically for property information that may be activated when category names are processed. If people are able to estimate the frequency with which properties are activated in a list of category names, is this sensitivity dependent upon whether the property is conceptually central or conceptually salient?

In order to conduct the frequency estimation experiment, it was first necessary to generate an adequate number of property-item pairs that varied both in conceptual centrality and in salience. The purpose of the first two preliminary experiments was to generate the necessary stimulus material. The purpose of the first experiment was simply to generate property-item pairs by giving participants a property and then asking them to generate items that have this property. The purpose of the second experiment was to obtain centrality, diagnosticity, and salience ratings for these property-item pairs. The goal was to obtain two sets of property-item pairs: high centrality and low centrality. For each property, it was necessary to find as many as five items for which a property was rated, say, high on salience and low on centrality. These ratings were then used to create lists of property-item pairs for use in Experiment 3 that differed on measures of the centrality and salience of properties while being equated for diagnosticity.

Experiment 1

Method

Stimuli

Properties were chosen so participants were able to generate items that included both natural kinds and artifacts. Because frequency estimation was the task used in Experiment 3, there needed to be property categories that contained varying numbers of items. Specifically, to use property categories with frequencies 0, 1, and 5, there was a need for property categories with up to five items for which the property had high salience, and property categories with up to five items for which the property had high centrality (see Experiment 2). Properties presented to participants included the following:

> Smelly, Liquid, Hot, Sweet, Sharp, Slimy, Wooden, Yellow, Noisy, Sour, Soft, Noisy, Cold, Has Seeds, Grows On Trees, Has Skin, Has Fur, Walks, Hops, Flies, Has Wheels, Grainy, Scary, Clear, Reflective, Salty, Ferocious, Has Leaves, Sticky, Fast, Transparent, Round, Triangular, Poisonous, Dangerous, Rolls, Rubber, Plastic, Glass, Stores Things, Juicy, Is Large, Red, Swims, Has A Tail, Alive, Edible, Leather, Has A Handle, Is Spicy, Loud, Extravagant, Spotted, Freezing, Furry, Tall, Green, Blue, Orange, Crunchy, Has a Shell

Participants

In Experiment 1 there were 5 participants. Participants were all graduate students at the University of Massachusetts.

Procedure

Participants were given the booklets containing the 61 property categories to complete on their own. The participants' task was to generate for each property as many related items as possible in two minutes. Participants were asked to generate any

related items that came to mind. At the beginning of the booklet, participants were given the following instructions:

All things have properties that are related to them. For example, **flamingoes** are **pink**. In this experiment, you will be given a property like **pink**, and your task will be to think of things that have this property. So, for **pink**, in addition to **flamingo** you might write down **bubble gum, pigs, etc**. We want you to write down as many different **pink** things as you can. You can take up to two minutes to generate things for the property **pink** before you should turn the page and go on to the next property. If you finish generating examples before two minutes are up, you may go on to the next item. Thank you for your participation.

Results

Participants were able to generate a sufficient number of items for each property category. For example, for the property *poisonous* participants generated the following items: cyanide, lead, chemicals, venom, strychnine, ammonia, bleach, roach killer, weed killer, spiders, gas, household cleaners, berries, and hemlock. These generated items were then used to create the questions for Experiment 2. These questions were then used to obtain ratings of salience, centrality, and diagnosticity. Some items that only marginally fit the relevant property category were culled from the final list used to create the questions. For a complete list of the property/item pairs that were generated by participants and that were chosen by the experimenter see the Experiment 2 question lists in Appendices A-D.

Experiment 2

The purpose of Experiment 2 was to obtain ratings of salience, conceptual centrality, and diagnosticity for property-item pairs that were used in Experiment 3. Some of the questions used by Sloman et al. (1998) were used to obtain ratings of centrality, salience, and diagnosticity (see Tables 1 & 2).

Method

Stimuli

Participants were presented with items generated in Experiment 1 and were asked how the corresponding properties related to the item with respect to centrality, salience, or diagnosticity. The relevant item-property pair was rated on centrality, diagnosticity, and salience (see Table 2), but any individual participant only answered one question type to avoid any possible influence of responses on one question type to another (Sloman, et al, 1998).

Table 2. Questions to Measure Centrality, Salience, and Diagnosticity

1. Conceptual centrality/mutability How surprised would you be to find an ice cube that is not cold? How easily can you imagine a real ice cube that is not cold?
2. Salience How prominent in your conception of an ice cube is it that it is cold?
3. Diagnosticity Of all the things that are cold, how many of them are ice cubes?

One question for salience and diagnosticity and two questions for centrality were chosen from the list of possible questions used by Sloman et al. (1998, see Table 2). They were chosen by selecting those questions for each factor that had the smallest correlations with the other two factors. Ratings for centrality and salience were made on a scale of 1 to 10, where 1 indicated low centrality or low salience and 10 indicated high centrality or high salience. The "surprise" question and the "ease-of-imagining" question, which both loaded high for centrality in Sloman et al., were used as measures

of centrality. One measure of salience (availability) could only be assessed with a reaction time task. Thus, the "prominence" question, which could be rated on a 1-10 scale, was used as the measure of salience. Lastly, diagnosticity was quantified using the "cue validity" question. Because of the probabilistic nature of the diagnosticity question, participants were asked to respond on a scale of 0-100.

Participants

In Experiment 2 there were a total of 184 participants. The participants were all University of Massachusetts undergraduates. They received course credit for their participation.

Procedure

Participants were asked to rate a portion of the item and property pairs for a single question type. That is, each participant saw only centrality questions, salience questions or diagnosticity questions and then, within each type, saw only a subset of the total number of questions. For the ease of imagining, surprise, and prominence questions, each participant made 395 ratings (see Table 2 for sample questions). For these categories, the questions were divided into two subsets-Set A and Set B. The conditional probability questions were divided into three subsets of 263, 263, and 264 questions because these questions were expected to take longer to answer (Set A, Set B, and Set C). Each participant rated only one of these subsets (see Appendices A-D for a complete list of questions). On average, participants were able to complete the rating task in less than 30 minutes.

Participants were given the following instructions before beginning the rating task. The rating scale was present as participants made each rating.

Surprise instructions: You are going to see a series of questions where you will be asked how surprised you would be to find an item that did not have a specific property. For example--how surprised would you be to find an **ice cube** that is not **cold**? You should make your ratings on a scale from 1 to 10, where 10 means you would be extremely surprised to find an ice cube that wasn't cold and 1 means you wouldn't be very surprised to find an ice cube that wasn't cold. After making your response for each item/property pair, a new item will come up until you have finished all of the ratings.

Rating scale:

1	2	3	4	5	6	7	8	9	10
not at all surprised								extremely surprised	

Ease-of-imagining instructions: You are going to see a series of questions where you will be asked how easy it would be to imagine an item that did not have a specific property. For example--how easy is it to imagine an **ice cube** that is not **cold**? You should make your ratings on a scale from 1 to 10, where 10 means its very hard to imagine an ice cube that isn't cold and 1 means it's very easy to imagine an ice cube that isn't cold.

Rating scale:

1	2	3	4	5	6	7	8	9	10
easy to imagine									hard to imagine

Prominence instructions: You are going to see a series of questions where you will be asked how much does a property stand out for a specific item. For example--how much does the property **cold** stand out in your thoughts about **ice cubes**? You should make your ratings on a scale from 1 to 10, where 10 means cold really stands out and 1 means cold doesn't stand out very much at all.

Rating scale:

1	2	3	4	5	6	7	8	9	10
does not stand out									really stands out

Diagnosticity instructions: You are going to see a series of questions where you will be asked Of all the things that have a specific property, how many of them are in a specific category. For example--of all the things that are **cold** how many of them are **ice cubes**? You should make your ratings on a scale from 0 to 100, where 100 means all of the things that are cold are ice cubes and 0 means none of the things that are cold are ice cubes.

Rating scale:

0	10	20	30	40	50	60	70	80	90	100
nothing with property x is a y										all things with property x are y's

Set A and Set B of the ease-of-imagining questions were rated by 19 and 20 participants, respectively. Set A and Set B of the surprise questions were both rated by 21 participants. Set A of the prominence questions was rated by 20 participants and Set B was rated by 21 participants. Lastly, Set A of the conditional probability questions was rated by 20 participants and Sets B and C were both rated by 21 participants.

Results

The ratings were collected and an average was computed for each item by each question type. Appendix E contains a complete set of means for all of the items by each question type. These ratings were then used to construct lists of high centrality items and high salience items. The high centrality items and high salience items were selected in the following manner. First, a planned comparison was conducted on the two centrality items compared to the salience items [((Centrality1 + Centrality2) / 2)- Salience] . Those items that were rated by participants as significantly different at the .05 level on centrality and salience were extracted from the list. These items were then

used to construct the final lists used in Experiment 3. For Experiment 3, items needed to meet the following criteria:

- There needed to be seven property categories with 0 items, seven property categories with 1 item, and seven property categories with 5 items.
- The items that were chosen needed to be rated significantly higher on centrality than on salience or significantly higher on salience than on centrality.
- Within a given list (high salience or high centrality), the items that were chosen needed to belong (with a few exceptions), to only one property category.

To comply with the specified criteria, a small number of items on the final lists were not significant at the .05 level, but the mean ratings were in the appropriate direction (see Table 3).

All items and their ratings on centrality, salience, and diagnosticity can be found in Appendix E, with significant differences on centrality and salience indicated by bullets. Also, Appendix F and Appendix G contain the two lists of significant items that were extracted from the list in Appendix E. List 1 contains all of the items that were rated high on salience and low on centrality and List 2 contains all of the items that were rated high on centrality and low on salience.

Table 3. Means Ratings for Experiment 3 Items

	Centrality 1 (C1)	Centrality 2 (C2)	Salience S	Contrast Significance	95% Confidence Interval-Contrast
				Null Hypothesis: (C1+C2)/2-S=0	
POISONOUS					
❖ VENOM	8.1	7.3	9.3	.029	-1.9 to -.11

• **Indicates high centrality**
❖ **Indicates high salience**

CLEAR					
❖ GLASS	4.2	3.4	8.6	<.001	-4.1 to -2.1
❖ PLASTIC	3.7	3.1	6.2	<.001	-2.9 to -.88
❖ CELLOPHANE	6.4	5.1	7.9	.013	-2.4 to -.31
❖ WINDOW	6.4	5.5	8.5	.004	-2.7 to -.54
❖ SARAN WRAP	6.7	5.1	8.2	.014	-2.6 to -.30
HAS WHEELS					
• VAN	8.5	8.7	7.1	.01	.269 to 1.91
• TRAIN	7.3	8.3	5.2	.002	.666 to 2.68
• ROLLER COASTER	7.2	8.6	5.1	.001	.792 to 2.74
• GO-CART	7.6	8.8	6.6	.027	.13 to 2.04
• BUS	8.4	8.9	7.6	.064	-4.8E-02 to 1.65
RUBBER					
• GARDENHOSE	8.6	7.0	6.8	.19	-.36 to 1.78
ORANGE					
❖ PUMPKIN	7.3	7.1	9.3	.016	-2.38 to -.25
GLASS					
• LIGHT BULB	8.9	8.4	7.2	.008	.274 to 1.77
GROWS ON TREES					
• BANANA	8.3	8.5	6.8	.015	.22 to 1.98
• PEARS	8.5	8.4	6.9	.005	.37 to 1.98
• LEMONS	8.4	8.0	6.0	.003	.53 to 2.41
• LIMES	8.4	7.9	5.7	.002	.618 to 2.58
• PEACHES	8.8	8.4	7.1	.011	.25 to 1.86
STORES THINGS					
• BANK	8.5	8.1	5.8	.001	.74 to 2.71
IS RED					
❖ FIRE ENGINE	7.2	5.8	9.6	< .001	-2.90 to -.89
HAS A TAIL					
• WHALE	7.9	8.4	5.9	.02	.265 to 2.90
• ELEPHANT	7.8	8.3	5.8	.008	.41 to 2.63
• COW	7.5	7.6	6.2	.035	7.089E-02 to 1.92
• KANGAROO	7.0	8.1	5.5	.008	.411 to 2.56
• BIRD	6.7	6.3	4.9	.059	-4.46 E-02 to 2.40
IS LEATHER					
❖ POCKETBOOK	3.3	1.8	6.6	<.001	-3.56 to -1.94
❖ BOOT	4.2	3.5	7.1	<.001	-3.05 to -.99
❖ BELT	4.7	3.2	8.2	<.001	-3.91 to -1.93
❖ COUCH	2.0	1.8	6.3	<.001	-3.57 to -1.76
❖ WALLET	3.1	2.2	8.2	<.001	-4.42 to –2.68

HAS A HANDLE					
• UMBRELLA	8.4	8.7	5.2	<.001	1.26 to 3.01
IS STICKY					
• TAR	8.7	8.1	7.1	.024	.14 to 1.82
• HONEY	9.3	9.0	6.9	<.001	.81 to 2.39
• SYRUP	8.8	8.9	7.2	.016	.20 to 1.89
• MOLASSES	8.7	8.4	6.9	.027	.14 to 2.13
• JELLY	6.9	7.2	4.3	<.001	1.11 to 2.87
IS SMELLY					
❖ GARBAGE	7.0	6.4	8.6	.019	-2.13 to-.20
❖ MANURE	8.8	8.1	9.5	.039	-1.29 to –3.374E-02
❖ SKUNKS	8.2	7.8	9.4	.028	-1.83 to -.11
❖ FOOT	4.9	4.1	6.4	.027	-1.90 to -.12
❖ GYM SOCK	7.6	6.8	8.0	.417	-1.17 to .49
• BLEACH	8.6	7.8	6.5	.002	.47 to 2.05
• GARLIC	8.1	7.5	6.6	.031	9.700E-02
• HALITOSIS	8.8	7.4	4.8	<.001	.996 to 3.21
• SULFUR	7.7	8.2	7.1	.053	-1.198E-02 to 1.78
• ONION	7.5	7.1	6.5	.147	-.257 to1.68
(IS) LIQUID					
• SODA	8.8	8.4	7.0	.043	3.128E-02 to 1.87
• BEER	9.3	8.7	7.2	.011	.23 to 1.69
• WINE	9.3	8.9	7.1	.004	.38 to 1.88
• ALCOHOL	9.1	8.6	7.2	.05	6.157E-04 to1.68
• SOUP	7.7	7.9	5.7	.009	.33 to 2.22
(IS) HOT					
❖ OVEN	3.5	6.1	7.9	<.001	-3.30 to -1.02
❖ STOVE	2.9	5.6	7.5	<.001	-3.39 to -1.26
❖ FIREPLACE	3.9	6.1	7.2	.023	-2.62 to -.21
❖ HEATER	4.6	5.3	7.6	.002	-2.90 to -.69
❖ SUMMER	4.1	4.4	7.8	<.001	-3.32 to -1.17
(IS) SWEET					
❖ CANDY	6.3	4.1	8.8	<.001	-3.36 to -1.34
(IS) SHARP					
❖ KNIFE	5.9	5.0	9.5	<.001	-3.64 to -1.83
❖ SWORD	6.4	5.7	9.4	<.001	-3.07 to -1.36
❖ RAZOR	7.1	5.3	9.2	<.001	-2.86 to -1.14
❖ SCISSORS	5.8	5.0	7.3	.016	-2.29 to -.25
❖ BLADES	6.6	6.0	9.0	<.001	-2.65 to -.92
HOPS					
❖ KANGAROO	7.5	8.0	9.3	.006	-1.79 to-.31

(IS) SLIMY					
• MUCUS	8.9	8.1	7.5	.072	-6.84E-02 to 1.54
• LEECH	7.9	7.7	6.3	.028	.12 to 2.01
• JELLYFISH	8.1	8.1	6.5	.036	7.52E-02 to 2.16
• LOTION	7.4	6.3	4.5	.003	.58 to 2.62
• OIL	7.8	7.8	5.2	.001	.75 to 2.74
HAS LEAVES					
• LETTUCE	9.2	8.0	6.4	.008	.375 to 2.32
(IS) YELLOW					
❖ SUN	6.4	5.3	8.2	.007	-2.63 to -.44
❖ LEMON	7.3	6.3	9.4	.001	-2.56 to -.74
❖ CORN	4.8	4.9	7.0	.012	-2.60 to -.34
❖ SCHOOL BUS	6.3	5.1	8.6	.001	-2.93 to -.80
❖ TAXI	5.0	4.0	7.7	.001	-3.24 to -.96
(IS) GREEN					
❖ GRASS	4.2	3.9	9.1	<.001	-4.40 to 2.53
(IS) LOUD					
• AVALANCHE	6.5	7.8	5.1	.011	.332 to 2.45
IS GRAINY					
• SANDPAPER	9.2	8.7	8.1	.137	-.19 to 1.3
FLIES					
❖ BIRD	6.1	5.6	9.6	<.001	-3.27 to –1.31
IS COLD					
❖ SNOW	8.2	8.2	9.1	.107	-1.26 to .127
❖ FREEZER	7.5	7.7	9.0	.02	-1.74 to -.16
❖ ANTARCTIC	8.5	8.7	9.2	.215	-1.04 to .239
❖ WINTER	4.6	5.4	9.2	<.001	-3.77 to -1.87
❖ REFRIGERATOR	5.4	5.8	7.3	.027	-2.17 to -.135

CHAPTER 3
USING FREQUENCY JUDGMENTS TO TEST SENSITIVITY TO SALIENT AND CONCEPTUALLY CENTRAL PROPERTIES

Experiment 3

The purpose of Experiment 3 was to explore (1) whether conceptually central or salient properties are activated sufficiently when activating a concept for participants to demonstrate sensitivity to property frequency, and (2) whether sensitivity to frequency depends on the manner in which the presented items are processed. Barsalou's theory of context-independent properties (1982) states that some properties are activated in any context. According to his theory, it should be possible to get people to demonstrate sensitivity to the frequency of a context-independent property in a list of learned items in any context. Therefore, participants given lists of items that a) are highly related to salient or central properties b) instantiate the same sense of a property, and c) are related to only one of the properties being probed in the test phase, should show sensitivity to property frequency regardless of context. As pointed out previously, there currently exists no evidence as to whether or not participants can be made to demonstrate sensitivity to property frequency (Barsalou & Ross, 1986; Saunders et al., 1987). If sensitivity to the frequency of properties were found only in biasing contexts, this would provide evidence against a strong version of Barsalou's theory. In addition, if sensitivity were found for either salient or conceptually central properties in the "neutral" context, this would help to further define the nature of properties that are referred to as context-independent properties.

To ensure that this experiment examined automatic activation of properties in different contexts rather than strategic activation, incidental orienting tasks were used so that participants would not intentionally process property frequency (Greene, 1984; Naveh-Benjamin & Jonides, 1986; Williams & Durso, 1986). For example, in condition 1, a neutral, non-biasing context, participants were asked to learn a list of items for free recall. They were not told about the frequency estimation task. Participants in conditions 2 and 3 were also told that they would receive a free recall test, but, in addition, were asked to study the items in specific ways. The purpose of these instructions was to test whether or not it was necessary to orient participants towards specific aspects of the items to enable them to access pre-existing memory structures for properties and whether different types of orienting tasks activate different types of properties.

Many levels-of-processing and imagery studies have shown that certain kinds of tasks may orient participants towards salient properties of items, and thus lead to better recollection (e.g. Anderson & Reder, 1979; Belleza, 1996; Bower & Winzenz, 1970; Craik & Lockhart, 1972; Craik & Tulving, 1975; McDaniel & Pressley, 1987; Pavio, 1995). It was hypothesized that if property activation is sensitive to context (Barsalou, 1982) then participants in the high salience condition who were given a visual imagery task in condition 2 which orients them towards perceptual properties would be more likely to demonstrate sensitivity to salient properties. Participants in the high centrality group should not be similarly affected by this orienting task.

Because conceptually central properties are highly related to the internal structure of a concept, to orient participants towards conceptually central properties,

participants were asked to think about the internal structure of each item in condition 3. It was hypothesized that these participants would be more likely to demonstrate a greater sensitivity to conceptually central properties than participants in the low centrality group would.

Lastly, if participants are sensitive to either salient or conceptually central properties regardless of context, there should be no difference in sensitivity between conditions.

Method

Stimuli

Two lists of items were constructed using 21 property categories each for high centrality and high salience. Property categories and item lists were chosen using the results of Experiments 1 and 2 (See Table 3 and Appendices A-G). The same stimuli were used for each biasing condition. Lists of items were constructed, such that for each property for a level of a given factor there were 0, 1, or 5 items. Seven property categories contained 0 items, seven contained 1 item, and seven contained 5 items for a total of 42 items (See Table 4 and Table 5). The items in the high centrality list had an average rating of 8.15 (SD = .60) for centrality and 6.29 (SD = .92) for salience, and these ratings differed significantly, $t(42) = 19.563$, $p < .001$. The average diagnosticity rating for these items was 43.60 (SD = 8.83). The items chosen for the final high salience list had an average rating of 8.32 (SD = 1.01) for salience and 5.53 (SD=1.64) for centrality, which also differed significantly, $t(42) = 15.06$, $p < .001$. The average diagnosticity rating for these items was 47.87 (SD = 8.24).

Table 4. Stimuli for High Salience/Low Centrality

0 Item Categories	1 Item Categories	5 Item Categories
Is Salty	**Is Poisonous**	**Is Hot**
	Venom	Oven
		Stove
		Heater
		Fireplace
		Summer
Is Purple	**Is Orange**	**Is Sharp**
	Pumpkin	Knife
		Sword
		Razor
		Scissors
		Blades
Is Spotted	**Is Red**	**Is Yellow**
	Fire engine	Sun
		Lemon
		Corn
		Taxi
		School bus
Swims	**Is Sweet**	**Is Leather**
	Candy	Belt
		Boot
		Pocketbook
		Couch
		Wallet
Is Spicy	**Is Green**	**Is Clear**
	Grass	Glass
		Plastic
		Cellophane
		Window
		Saran wrap
Is Funny	**Flies**	**Is Cold**
	Bird	Snow
		Freezer
		Winter
		Refrigerator
		Antarctica
Is Liquid	**Hops**	**Smells bad**
	Kangaroo	Garbage
		Manure
		Skunks
		Feet
		Gym Socks

Table 5. Stimuli for High Centrality/Low Salience

0 Item Categories	1 Item Categories	5 Item Categories
Is Leather	**Is Grainy**	**Has Wheels**
	Sandpaper	Bus
		Van
		Roller Coaster
		Go Cart
		Train
Is Sharp	**Is Glass**	**Has a Tail**
	Light bulb	Whale
		Elephant
		Cow
		Kangaroo
		Bird
Is Orange	**Has Leaves**	**Grows on Trees**
	Lettuce	Bananas
		Pears
		Peaches
		Limes
		Lemons
Is Purple	**Has a Handle**	**Is Slimy**
	Umbrella	Leeches
		Oil
		Mucus
		Lotion
		Jellyfish
Is Salty	**Stores Things**	**Is a Liquid**
	Bank	Soda
		Beer
		Wine
		Soup
		Alcohol
Is Funny	**Is Loud**	**Is Sticky**
	Avalanche	Tar
		Honey
		Syrup
		Molasses
		Jelly
Is Reflective	**Is Rubber**	**Smells Bad**
	Garden hose	Bleach
		Garlic
		Halitosis
		Sulfur
		Onion

Participants

In Experiment 3, the participants were 142 University of Massachusetts undergraduates. All participants were able to complete the experiment in less than 30 minutes and they received course credit for their participation.

Learning Phase

The design of the experiment was a 2 (list types) x 3 (instruction conditions) design. Each subject participated in only one of the six conditions and participants were randomly assigned to either the high centrality or the high salience lists for instruction condition 1 (Neutral), 2 (Imagery), or 3 (Structure). In condition 1, participants were told that their task was to learn a list of 42 items for a free recall task. They were not told how the items related to the property categories (Brown, 1997). Each item was presented on the computer at a 4-second presentation rate. The following instructions were given:

In condition 1, participants were given the following neutral instructions:

You are going be presented with a list of items. Each item will appear individually on your computer screen and you will have 4 seconds to study the item. Your job is to study each item, so that you can recall it later. You will be tested on your memory for the list after you are done studying the items.

In condition 2, participants were given the following imagery instructions:

You are going be presented with a list of items. Each item will appear individually on your computer screen and you will have 4 seconds to study the item. Your job is to study each item, so that you can recall it later. You will be tested on your memory for the list after you are done studying the items. To help you recall these items, for each item on this list you should try to create an **image**. Remember that **images** can not only be visual, but they can also include other senses. For example, imagine walking along a beach. You can, in your **image**, have a picture of the beach, the feel of the sand between your toes, the smell of the ocean and the sound of the ocean.

In condition 3, participants were given the following instructions:

You are going be presented with a list of items. Each item will appear individually on your computer screen and you will have 4 seconds to study the item. Your job is to study each item, so that you can recall it later. You will be tested on your memory for the list after you are done studying the items. To help you recall these items, for each item on this list you should try to think about the **internal structure** of each item For example you might think about what is it about the **internal structure** of a refrigerator that makes it a refrigerator. Remember that the **internal structure** of an item can be mechanical, biological, or related to an item's physical structure. For example, a chair is a chair because of its physical form that allows sitting, a car is a car because of its engine, wheels, etc. which allows driving, and a bird is a bird because of its biology that gives it wings etc.

Because additional time was available to run participants, two non-randomized conditions were added to the experiment. These conditions were added to increase the chances of finding significant frequency effects. In the non-random conditions, participants were presented with the same lists of high centrality and high salience items used in conditions 1-6, but presentation order was not randomized. Instead, participants were first presented with all of the frequency 5 items and then all of the frequency 1 items. Participants were given no indication as to where the category groups started or ended, and were not told in advance that items in the list belonged to any type of property category. They were given the identical instructions that were given to participants in the neutral instruction condition (instruction condition 1).

Frequency Estimation Phase

After the learning trials, all participants were told that they were going to be given a frequency test. Participants were told that the words on the studied list belonged to different property categories and they were given an example of how an item may belong to a property category. They were told to imagine that different kind of **pink** items were on the list (i.e. **flamingoes**, **bubble gum**, and **pigs**). Participants

were advised that different numbers of items had been presented for each property category and their job was to judge how many items were in each group. They were also informed that there may have been many **pink** things or there may have been no **pink** things at all (Brown, 1995; Brown, 1997). Finally, they were given instructions to make their estimate as quickly and as accurately as possible (Barsalou & Ross, 1986).

For the frequency estimation phase, a keyboard press initiated a trial. A property category then appeared at the center of the computer screen, and participants were asked to type in an exact frequency estimate on the computer as fast and as accurately as possible and then press the enter key after they were finished typing their estimate. After typing in an estimate and pressing the enter key, participants then pressed the spacebar when they were ready to begin the next trial. The frequency estimation phase was the same for all six conditions.

Hypotheses

It was hypothesized that if the stimuli were examples of context-independent properties, then these properties should lead to accurate estimates of frequency in the frequency test phase for all conditions, even in condition 1, because context-independent properties should be activated even in this "neutral" context (Barsalou, 1982). It was unclear, a priori, if evidence for sensitivity to context-independent properties was obtained in this "neutral" condition, whether estimates would be more accurate for high centrality or high salience items.

A second hypothesis was that if property activation is highly context-dependent, there may be insufficient activation in condition 1 to detect sensitivity to property frequency, but if property activation is moderately context-dependent there may simply

be less sensitivity to frequency in condition 1 than in condition 2. A third hypothesis was that if property activation is context-dependent, then for condition 2 the imagery participants in the high salience group might show a greater sensitivity to frequency than participants in the high centrality group. Likewise, for condition 3, participants in the high centrality group might demonstrate a greater sensitivity to frequency than participants in the high salience group.

As a post hoc test of the strategy used by participants to estimate frequencies, the reaction times for different frequencies were compared within each condition for each list type. Brown (1995,1997) stated that if participants use non-enumeration strategies, estimates of frequency should rise with actual frequency, but there should not be a corresponding increase in response times for higher frequencies.

Recall Test

Following the frequency test, participants in all conditions were given a structured recall test. The purpose of this task was to ensure that subjects did study the list of items and could demonstrate that they had some explicit memory for those items, regardless of their performance on the frequency estimation task. This should divert any criticism that a failure to demonstrate sensitivity to property frequency is simply the result of participants having not learning the list of items during the study phase.

Participants were given a booklet with the property category headings and were asked to recall as many items as they could for each property category. On the last page of the booklet, all participants were asked about any strategies that they might have used during the learning phase independent of any instructions. This was to examine whether participants used imagery or structural cues to aid them in recall.

Results

Frequency Estimation

First, frequency estimates were related to actual frequency (see Tables 6-8 and Figures 1-5). In descriptive terms, looking at the graphs of estimated frequency plotted against actual frequency, it is clear that frequency estimates rose with actual frequency regardless of instructions or list type (see Figures 1-5). It is also clear that in most cases subjects overestimated the low frequency items (frequency 0 and 1) and underestimated the high frequency items (frequency 5). In a repeated measures ANOVA on the randomized condition, there was a significant linear trend for frequency ($F(1,111) = 172.70, p < .001$). There was also a significant linear interaction of frequency by list type ($F(1,111) = 7.43, p = .007$).

Table 6. Estimated Frequency by Actual Frequency for High Salience/Low Centrality Items: Random Order

Actual Frequency	Statistic	Neutral Instructions n=19	Imagery Instructions n=20	Structural Instructions n=18	Total N=57
0	Mean	.74	1.19	2.01	1.30
	SE	.44	.43	.45	.25
	CI	-.14-1.62	.33-2.04	1.10-2.91	.80-1.82
1	Mean	1.62	2.10	2.62	2.10
	SE	.55	.53	.56	.32
	CI	.52-2.71	1.04-3.17	1.50-3.74	1.48-2.74
5	Mean	2.46	2.77	3.00	2.74
	SE	.32	.31	.33	.18
	CI	1.82-3.10	2.15-3.39	2.34-3.66	2.37-3.11

Table 7. Estimated Frequency by Actual Frequency for High Centrality/Low Salience Items: Random Order

Actual Frequency	Statistic	Neutral Instructions *n*=20	Imagery Instructions *n*=21	Structural Instructions *n*=19	Total *N*=60
0	Mean	1.33	1.07	1.48	1.29
	SE	.36	.35	.37	.21
	CI	.62-2.04	.38-1.76	.75-2.21	.88-1.70
1	Mean	2.18	1.76	2.43	2.11
	SE	.45	.44	.46	.26
	CI	1.29-3.07	.89-2.62	1.52-3.34	1.61-2.64
5	Mean	3.76	3.14	3.53	3.47
	SE	.33	.32	.34	.19
	CI	3.11-4.41	2.50-3.77	2.87-4.20	3.10-3.85

Table 8. Estimated Frequency by Actual Frequency: Non-Random Order

		High Centrality /Low Salience	High Salience /Low Centrality
Actual Frequency	Statistic	Neutral Instructions *n*=13	Neutral Instructions *n*=12
0	Mean	1.43	.60
	SE	.28	.30
	CI	.84-2.02	-.017-1.21
1	Mean	2.89	1.43
	SE	.54	.56
	CI	1.78-4.00	.27-2.59
5	Mean	4.23	3.73
	SE	.33	.34
	CI	3.55-4.91	3.02-4.44

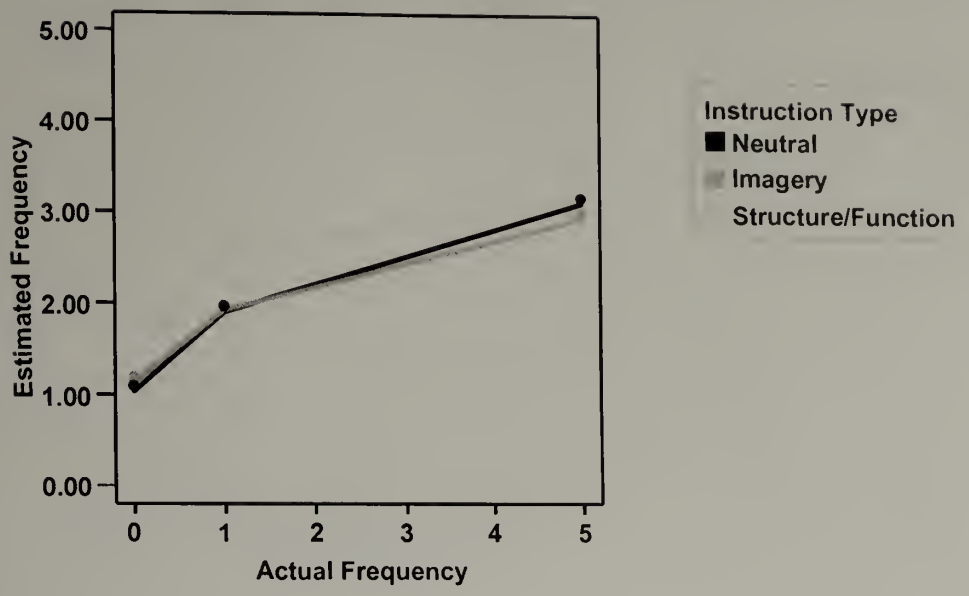

Figure 1. Estimated Frequency by Actual Frequency for Each Instruction Type--Random Order

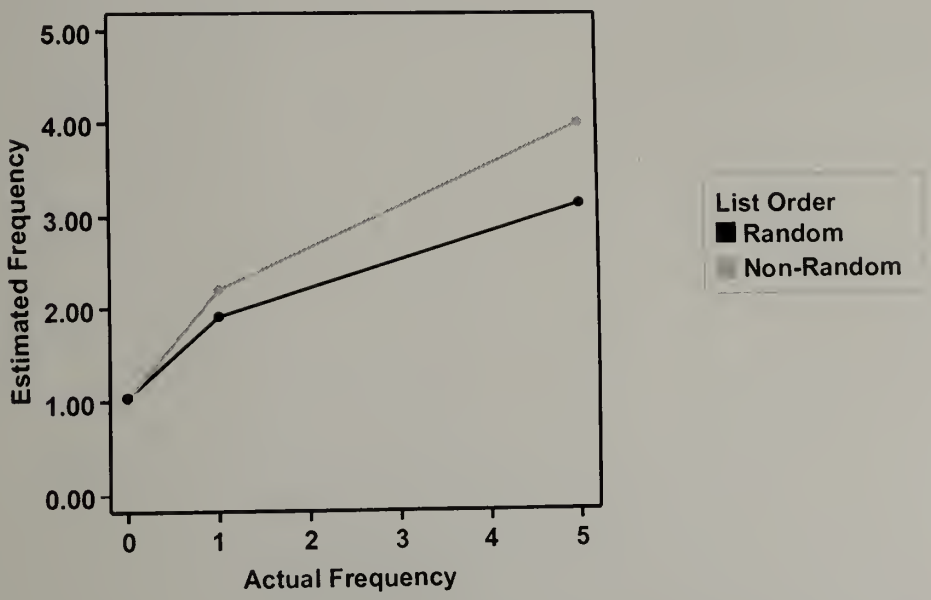

Figure 2. Estimated Frequency by Actual Frequency for Each Order Type--Neutral Instructions Only

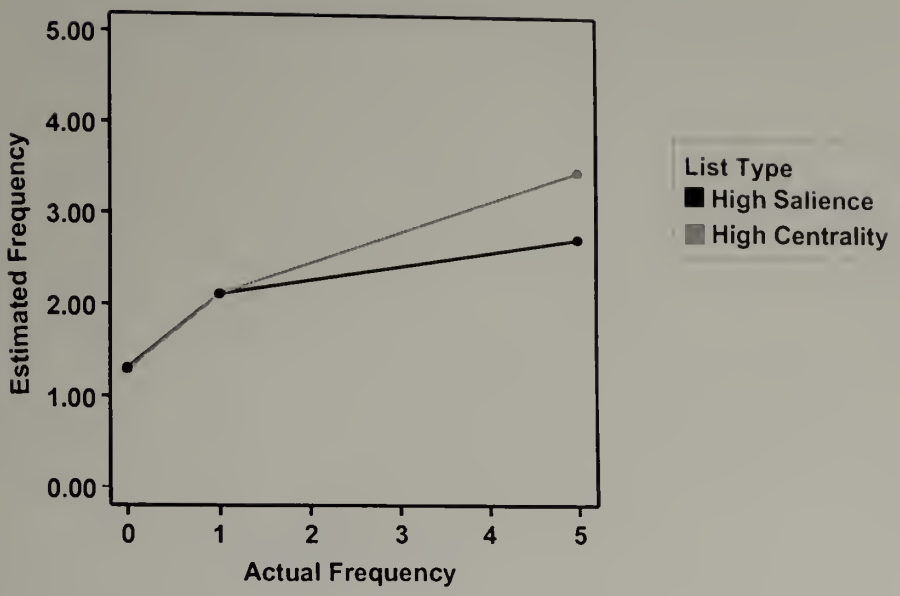

Figure 3. Estimated Frequency by Actual Frequency for Each List Type--Random Order

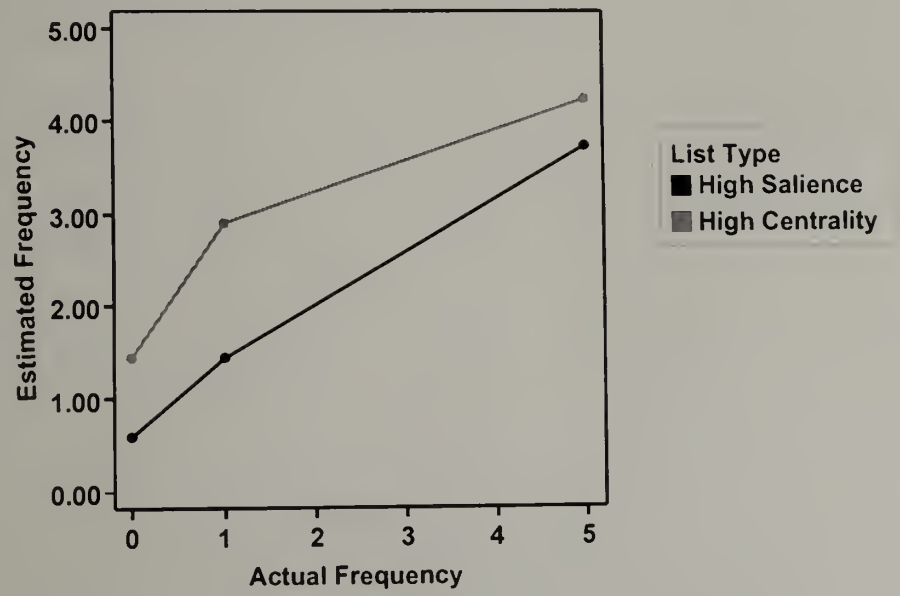

Figure 4. Estimated Frequency by Actual Frequency for Each List Type--Non-Random Order

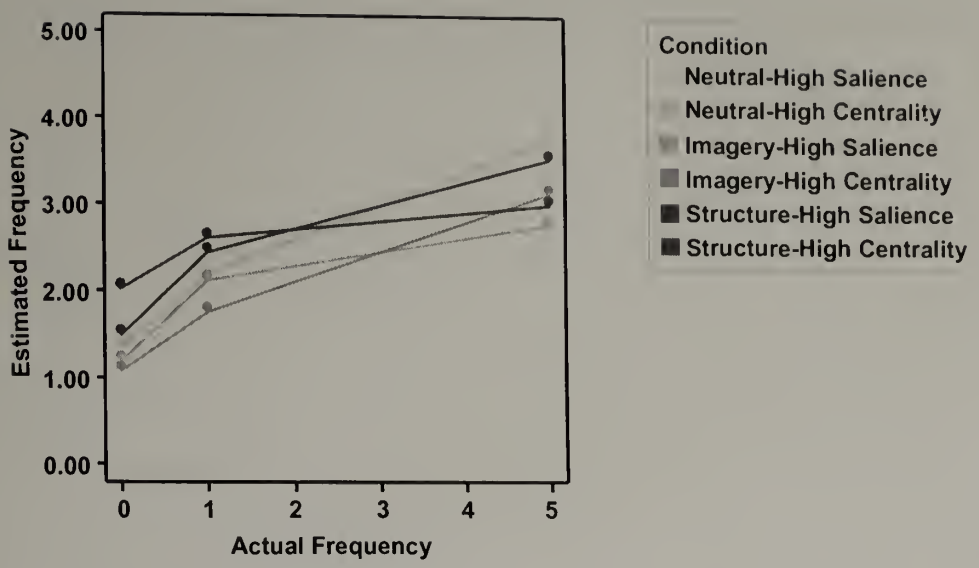

Figure 5. Estimated Frequency by Actual Frequency for Each Condition--Random Order

Next, for each participant, estimated frequency was regressed on actual frequency. From this regression, a slope was obtained for each participant. After computing the slope for each participant, the average slopes in each condition were computed and then were compared to zero to determine whether participants demonstrated any sensitivity to property frequency. Participants in five of the six conditions showed sensitivity to property frequency (see Table 9), with slopes being significantly different from 0 (all p's $< .001$). In the randomized condition, significant slopes ranged from a low of .27 in the imagery instruction/high centrality list ($t(20)=6.08$, $p<.001$) to a high of .46 in the neutral instruction/high centrality list ($t(19)=6.59$, $p<.001$). The high salience list paired with the function instructions was the only condition in which the slope was not significant ($t(17)=1.48$, $p=.151$, see Table 9).

Collapsing over instruction conditions, both list types (high salience & high centrality) had slopes significantly different than 0 with the high salience list having a slope of .25 ($t(56)=6.02$, $p<.001$) and the high centrality list having a slope of .41 ($t(59)=12.72$, $p<.001$, see Table 10).

Lastly, collapsing over list types, all three instruction conditions (neutral, imagery, & function) had slopes significantly different from 0 (see Table 11). The neutral instruction condition had a slope of .38 ($t(38)=9.03$, $p<.001$), the imagery instruction condition had a slope of .34 ($t(40)=10.83$, $p<.001$), and the function instruction condition had a slope of .27 ($t(36)=4.27$, $p<.001$).

An ANOVA for slope by list type and instruction type found a main effect of list type, indicating that the average slopes of the high salience and high centrality groups (random order only) were significantly different (.25 vs. .41, $F(1,111)= 9.09$, $p=.003$). This indicated that the two list types differed in their slopes, with the slope of the high centrality group being greater than the slope of the high salience group. For the different instruction conditions, there was no evidence that their slopes differed significantly from one another ($F(2,111) = 1.49$, $p = .23$). There was also no instruction by list type interaction $F(2,111)= .21$, $p= .81$).

Table 9. Mean Slopes of Regressing Estimated Frequency on Actual Frequency by Conditions

Instruction Condition	List Type	Presentation Order	Mean Slope	Confidence Interval	*t*	*df*	*SE*	Sig. (2-tailed)
Neutral	HS/LC	Random	.31	.22-.39	7.24	18	.04	< .001
Neutral	HC/LS	Random	.46	.31-.61	6.59	19	.06	< .001
Imagery	HS/LC	Random	.27	.18-.37	6.08	19	.04	< .001
Imagery	HC/LS	Random	.39	.31-.48	9.98	20	.04	< .001
Function	HS/LC	Random	.17	-.07-.41	1.48	17	.11	.158
Function	HC/LS	Random	.37	.25-.49	6.64	18	.06	< .001
Neutral	HS/LC	Non-Random	.61	.46-.76	9.19	11	.07	< .001
Neutral	HC/LS	Non-Random	.50	.35-.64	7.38	12	.07	< .001

Table 10. Mean Slopes of Regressing Estimated Frequency by Actual Frequency for List Types (Random Presentation Order)

List Type	Mean Slope	Confidence Interval	*t*	*df*	*SE*	Sig. (2-tailed)
HS/LC	.25	.17-.33	6.02	56	.04	< .001
HC/LS	.41	.34-.47	12.72	59	.04	< .001

Table 11. Mean Slopes of Regressing Estimated Frequency by Actual Frequency for Instruction Types (Random Presentation Order)

Instruction Condition	Mean Slope	Confidence Interval	*t*	*df*	*SE*	Sig. (2-tailed)
Neutral	.38	.29-.47	9.03	38	.04	< .001
Imagery	.34	.27-.39	10.83	40	.03	< .001
Function	.27	.14-.40	4.27	36	.06	< .001

Reaction Times

Reaction times were also examined (Brown, 1995,1997) to test whether participants used more automatic, non-enumeration strategies or less automatic, enumeration strategies when making their frequency estimates. As stated previously, if participants were using more automatic, non-enumeration strategies there should be an increase in frequency estimates corresponding to an increase in actual frequency, but there should be no such increase in reaction times (Brown, 1995,1997). Although it was clear that participants' frequency estimates did increase with actual frequency, there was no corresponding increase in response times (see Tables 12-14 and Figures 6-

10). An average reaction time slope was computed for each subject and then an average slope was computed for each condition. These averaged slopes were then compared to zero. All but three were not significantly different from zero. In the randomized condition, the non-significant slopes ranged from a low of -10.09 msec/item in the function instruction/high centrality condition ($t(18)=-.08$, $p=.94$) to a high of –86.65 msec/item in the neutral instruction/high salience condition ($t(18)=-1.31$, $p=.21$).

For the three slopes that were significantly different from zero (neutral instructions/high salience, function instructions/high salience, and neutral instructions collapsed over list type), the slopes were negative (-165.37 msec/item, t (19)= -2.45, p = .02; -105 msec/item, t(17)= -2.21, p=.04; and –127.03 msec/item, t(38)=-2.69, p=.01), indicating that reaction times were actually decreasing with increased frequency. These results appear to indicate that subjects were using a more automatic, non-enumeration strategy when estimating frequency.

Table 12. Reaction Time (msec) by Frequency for High Salience/Low Centrality Items: Random Order

Actual Frequency	Statistic	Neutral Instructions n=19	Imagery Instructions n=20	Structural Instructions n=18	Total N=57
0	Mean	5094.72	4993.68	4313.74	4812.64
	SE	416.62	746.92	434.15	324.29
	CI	4219.44-5970.01	3430.36-6556.99	3397.77-5229.71	4163.01-5462.27
1	Mean	4795.66	4479.31	3265.06	4201.31
	SE	426.57	560.29	307.62	271.05
	CI	3899.46-5691.86	3306.61-5652.01	2616.04-3914.08	3658.33-4744.30
5	Mean	4590.65	4994.29	3471.36	4378.81
	SE	421.30	554.08	316.35	269.15
	CI	3705.52-5475.77	3834.57-6153.00	2803.92-4138.79	3839.63-4917.00

Table 13. Reaction Time (msec) by Frequency for High Centrality/Low Salience Items: Random Order

Actual Frequency	Statistic	Neutral Instructions n=20	Imagery Instructions n=21	Structural Instructions n=19	Total N=60
0	Mean	5708.07	6068.43	6437.44	6065.16
	SE	551.60	684.50	852.24	399.86
	CI	4553.56-6862.59	4640.58-7496.27	4646.95-8227.92	5265.05-6865.27
1	Mean	6076.84	5620.48	6584.59	6077.90
	SE	766.55	573.91	894.38	426.68
	CI	4472.43-7681.25	4423.33-6817.64	4705.57-8463.60	5224.13-6931.68
5	Mean	5059.28	5559.59	6439.39	5671.42
	SE	482.71	676.20	1101.29	449.21
	CI	4048.95-6069.61	4149.06-6970.13	4125.68-8753.11	4772.55-6570.29

Table 14. Reaction Time (msec) by Frequency for Non-Random Order

		High Centrality /Low Salience	High Salience /Low Centrality
Actual Frequency	Statistic	Neutral Instructions n=13	Neutral Instructions n=12
0	Mean	4870.65	6061.40
	SE	510.48	668.29
	CI	3758.41-5982.88	4590.52-7532.29
1	Mean	5333.11	6212.51
	SE	779.91	731.88
	CI	3633.83-7032.39	4601.64-7823.39
5	Mean	5889.60	6138.71
	SE	964.65	1309.66
	CI	3787.80-7991.41	3256.16-9021.26

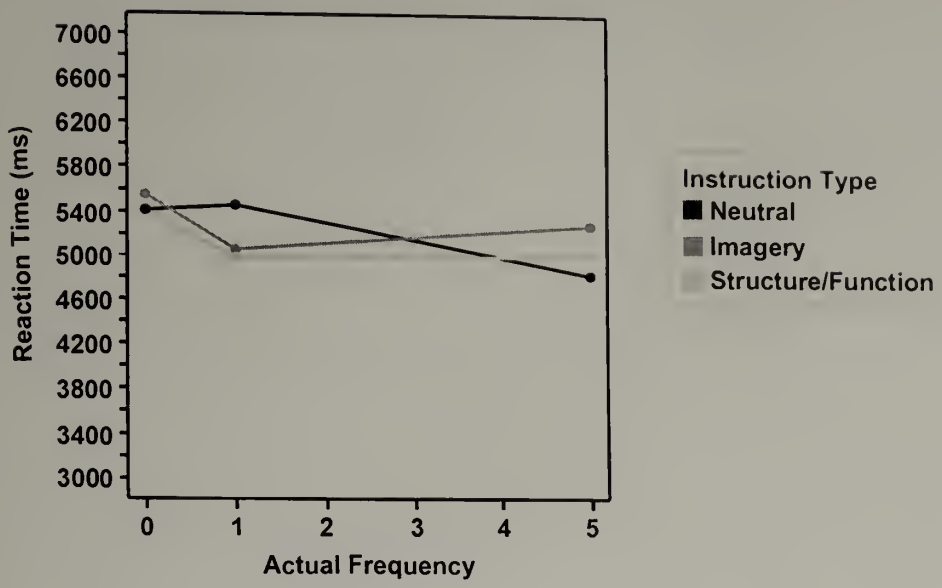

Figure 6. Reaction Time for Each Frequency by Instruction Type--Random Order

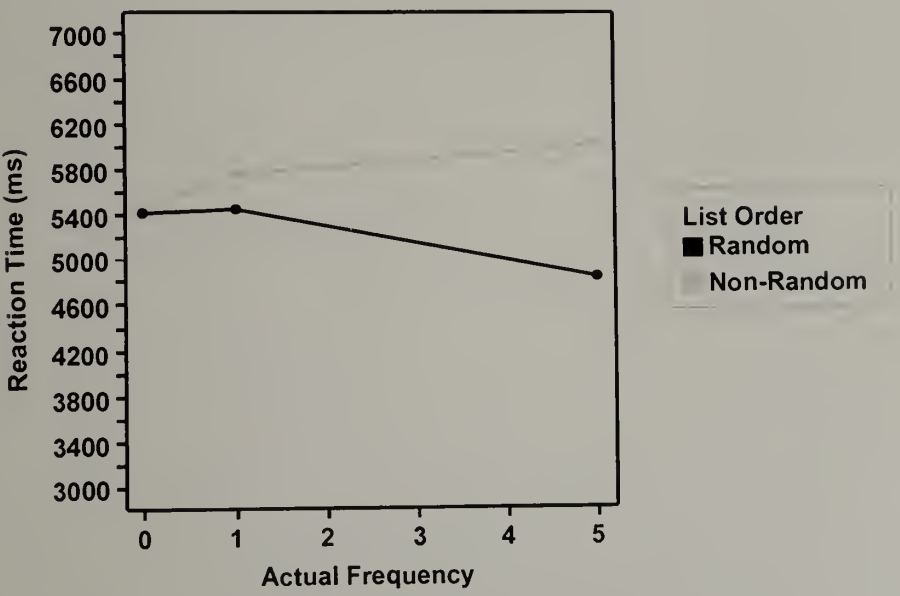

Figure 7. Reaction Time for Each Frequency by List Order--Neutral Instructions Only

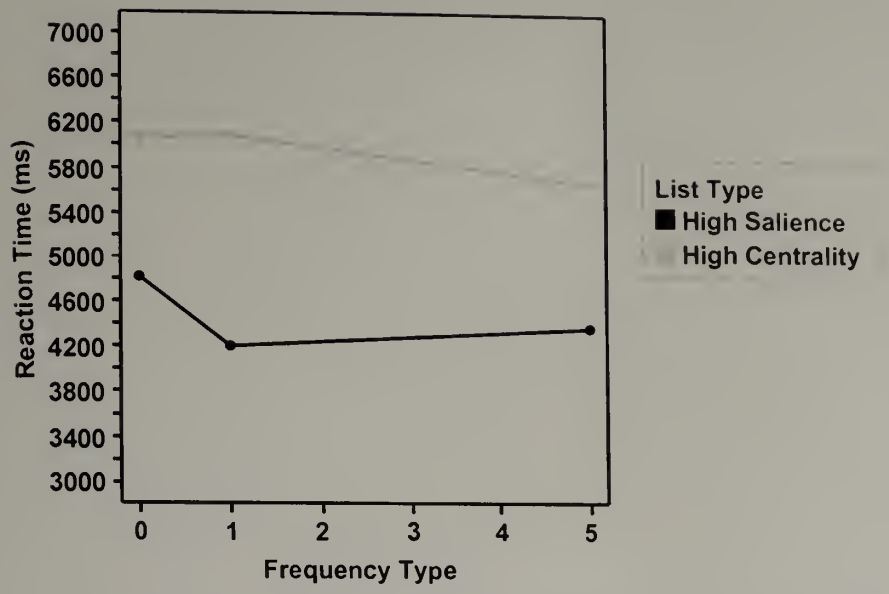

Figure 8. Reaction Time for Each Frequency by List Type--Random Order

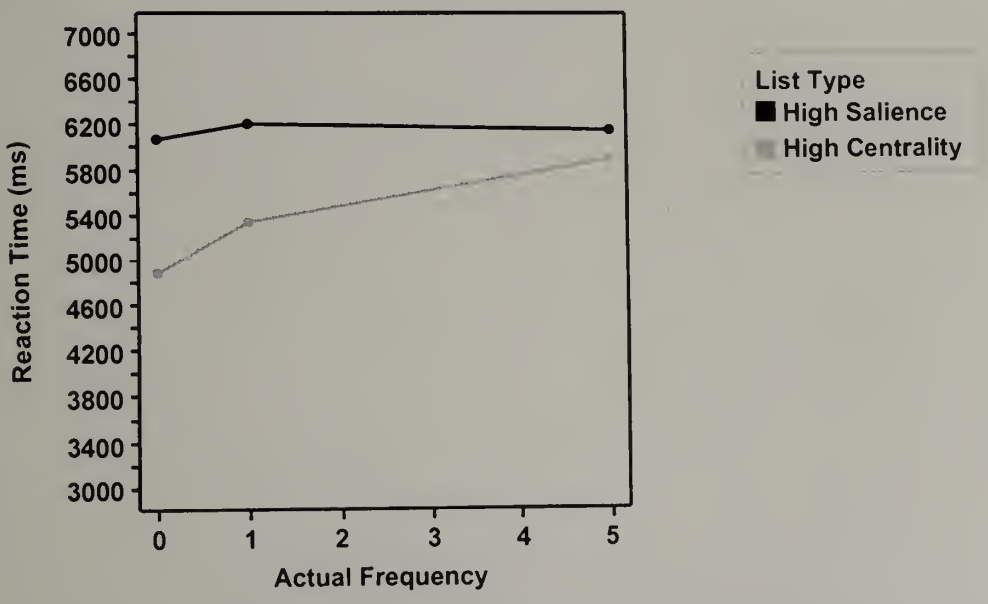

Figure 9. Reaction Time for Each Frequency by List Type--Non-Random Order

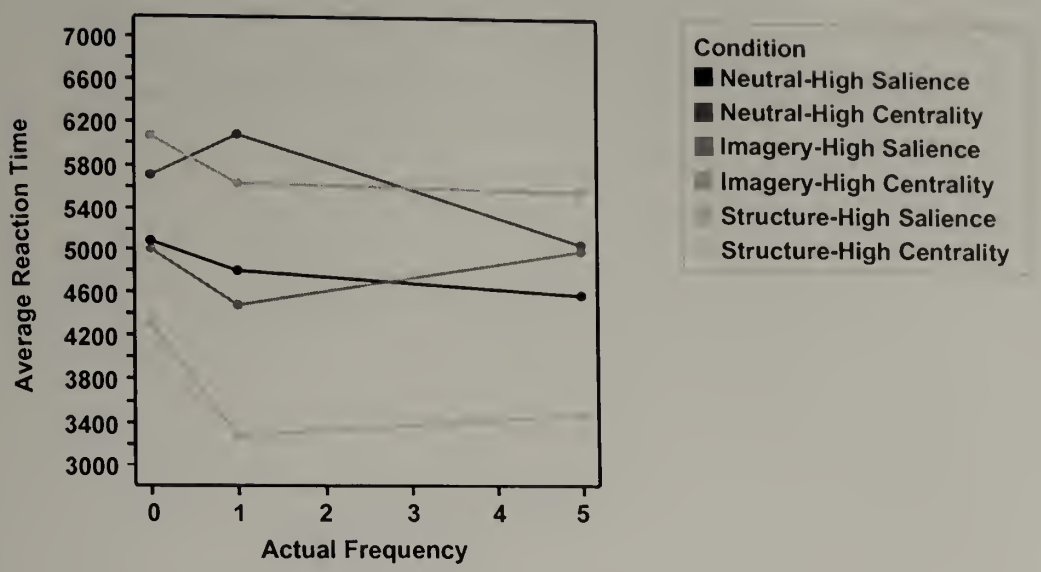

Figure 10. Reaction Time for Each Frequency by Condition--Random Order

Table 15. Mean Slope of Regressing Reaction Time on Frequency

Instruction Condition	List Type	Randomization	Mean Slope	*CI*	*t*	*df*	*SE*	Sig.
Neutral	HS/LC	Random	-86.65	-226.00-52.69	-1.31	18	66.32	.21
Neutral	HC/LS	Random	-165.37	-306.54--24.20	-2.45	19	67.45	.02
Imagery	HS/LC	Random	36.87	-145.91-219.65	.42	19	87.33	.68
Imagery	HC/LS	Random	-77.04	-236.87-82.78	-1.01	20	76.62	.33
Function	HS/LC	Random	-105.60	-206.32--4.89	-2.21	17	47.74	.04
Function	HC/LS	Random	-10.09	-270.10-249.92	-.08	18	123.76	.94
Neutral	HS/LC	Non-Random	5.77	-350.94-362.49	.04	11	162.07	.97
Neutral	HC/LS	Non-Random	185.31	-161.51-532.14	1.16	12	159.18	.27

Table 16. Mean Slope of Regressing Reaction Time on Frequency List Types (Random Order)

List Type	Mean Slope	Confidence Interval	*t*	*df*	*SE*	Sig.
HS/LC	-49.30	-131.17-32.57	-1.21	56	40.87	.23
HC/LS	-85.28	-189.86-19.30	-1.63	59	52.26	.11

Table 17. Mean Slope of Regressing Reaction Time on Frequency for Instruction Types (Random Order)

Instruction Condition	Mean Slope	Confidence Interval	*t*	*df*	*SE*	Sig.
Neutral	-127.02	-222.45- -31.59	-2.69	38	47.14	.01
Imagery	-21.47	-138.48-95.53	-.37	40	57.89	.71
Function	-56.56	-192.90-79.78	-.84	36	67.22	.41

Recall Strategies

The data from the recall test given after the frequency estimation task indicate that participants, when given the relevant property categories, were able to remember specific exemplars presented during the learning phase, both for the high salience items and for the high centrality items. However, it was not clear from the comments made by participants, that all participants were following instructions on how to learn the items. For instance, one participant who was learning the list with the conceptually central properties using the structure instructions said the following:

> (1) For many of the things I imagined what they would do to my body. Ex.-- Leech would be painful and take out blood. For lotion, I looked down at my dry hands. I imagined what sandpaper would feel like on my skin. I imagined what the noise of the train was. I used imagery for basically everything that I did remember.

Other participants made comments such as:

> (2) I tried to picture things and connect them like 'elephant' with a 'garlic' 'beer'...It had limitations, so I stopped after maybe 10...but kept using the visual imagery to help me remember the words.
>
> (3) I just tried to remember images. It seems I remembered things I liked & disliked the most or ones I could get a vivid image of.
>
> (4) I tried to put things together in categories. Also tried to remember things that stuck out. I also tried to make up stories and have images of the words be a part of them.

which seems to indicate that a large proportion of participants chose to use imagery, even when instructed to use another method.

Discussion

The goal of Experiment 3 was to test whether participants would demonstrate sensitivity to implicitly presented information. In previous research, Barsalou and Ross (1986) and a number of other researchers (Sanders et al., 1987; Spalding & Murphy, 1999; Wattenmaker, 1993) were unable to find evidence for the automatic activation of properties when encountering an item. Barsalou and Ross stated that participants were not sensitive to property frequency, a form of implicitly presented information, because they were not completing both stages of a two-stage process. Although Barsalou and Ross felt that participants were automatically activating properties when encountering concepts (stage 1), they argued that this property information, once activated, needed to interact with a pre-existing memory structure for researchers to detect this sensitivity to frequency information (stage 2). Barsalou and Ross contended that because individuals do not typically encounter properties in isolation, people have not developed memory structures for properties, and so do not complete stage 2 of the two-stage process.

In my study, I hypothesized that if properties were selected that instantiated the same sense of the property, and that were rated high on conceptual centrality or conceptual salience, property activation might be sufficient to contact pre-existing memory structures. If this activation was sufficient to contact these structures, then people should demonstrate sensitivity to property frequency. In addition, I hypothesized that if property activation is context-independent, then participants should demonstrate sensitivity to property frequency in a "neutral" context, but if property activation is context-dependent, participants may be more likely to demonstrate sensitivity to property frequency only in an appropriate biasing context.

Participants in Experiment 3 did demonstrate sensitivity to property frequency. In fact, sensitivity to property frequency was demonstrated regardless of list type and instruction type. Therefore, there appears to be firm evidence that both salient and conceptually central properties can be activated for concepts regardless of context. In addition, according to the logic of Barsalou and Ross (1986), there must be pre-existing memory structures for both central and salient properties.

These findings are also in accord with other work (Love, 1996; Sloman et al., 1998) that indicates that people are able to selectively access the centrality of properties. Furthermore, the evidence from this experiment suggests that conceptually central properties are activated more strongly than conceptually salient properties. Frequency estimates were more accurate (as indicated by slope) for high centrality properties than they were for high salience properties.

One final question is whether sensitivity to property frequency was due to conscious retrieval strategies used by participants to enumerate the number of items

they encountered for a given property or to non-conscious processes. If response times did not increase with frequency estimates, this would indicate that participants were not consciously searching through memory for exemplars which instantiate a specific property, but were instead using non-enumerative strategies (Williams & Durso, 1986). In examining the reaction time data, there was preliminary evidence that properties were being automatically activated when participants encountered an item having that property. When probed about a specific property, the evidence indicates that participants in Experiment 3 were able to access the number of items which instantiated these properties without consciously retrieving specific exemplars. However, given the extremely long reaction times overall, another study with response deadlines should be done to confirm this finding. There was no evidence, however, in Experiment 3, of any context effects.

CHAPTER 4
PROPERTY VERIFICATION AS A MEASURE OF CONTEXT-DEPENDENCY FOR SALIENT AND CONCEPTUALLY CENTRAL PROPERTIES

Experiment 4

To explore subtler differences between the availability of highly salient and highly central properties in unbiased and biased contexts, Experiment 4 used a task similar to a property verification paradigm used by Barsalou (1982) to study context-independent (CI) and context-dependent (CD) properties. Although in Experiment 3, context was defined by how participants were instructed to learn the list of items, it is possible that participants did not actually use these strategies when learning the items. In fact the evidence from the strategies that were reported by participants indicated that at least some participants tended to use whatever strategy helped them to recall the most items rather than the strategy that they were instructed to use.

Barsalou argued that if a property is context-independent, then time to verify that property for a particular concept should not vary regardless of the sentence frame into which the concept was embedded. Specifically, Barsalou (1982) said, "The primary difference between CI and CD information is simply the means by which they are activated: CI information is activated by the word for a concept, whereas CD information is activated by relevant contexts in which the word is encoded." (p.91). For example, if *smelly* is a context-independent property of skunk, then the time to indicate "true" for this property when preceded by the related sentence "The skunk stunk up the neighborhood" should not be any different than the speed for the unrelated sentence "The skunk was under the large willow". However, if *smelly* were a context-

dependent property of skunk then speeds should be greater in the related than in the unrelated condition.

Barsalou (1982) used two conditions: an *unbiased*, or what he called an "unrelated condition" and a *same-biasing* condition and what he called a "related condition". In this experiment, both of these conditions were used. In addition, a third condition was created to bias participants towards a different kind of property (*different-biasing*). It is possible that if there are degrees of property dependency, then a property, which may be activated equally in both a same-biased and unbiased context, may not be activated as strongly in a condition which biases participants towards a different kind of property. For example, because the sentence "I took a photograph of the *skunk*" makes you think about how a skunk looks, you may be less likely to think about a skunk's smell. Therefore, it is possible that verification speeds for a property may be the highest in both the unbiased and same-biasing context, and may be lower in the different-biasing context.

To explore the activation of salient and conceptually central properties for each concept, three sentence frame types (same-biasing, unbiased, different-biasing) were crossed with two property types (high salience and high centrality-see Table 18). In addition to the three experimental sentence frame types, a control sentence frame was constructed such that its subject noun was weakly related to its property (Barsalou, 1982). The purpose of this control sentence was to provide a baseline response speed against which response speed on the three experimental sentences could be measured. Participants should be able to respond faster if properties are highly related to their subject nouns than if they are weakly associated, as in the control sentences.

Table 18. Design of Experiment 4

Experiment Design
• 2 (Property Types) x 3 (Sentence Types)
2 Property Types:
• High Salience
• High Centrality
3 Sentence Frames:
• Unbiased
• Same-biasing
• Different-biasing

If property activation for context-independent properties is automatic, then in an unbiased context, it should take less time to verify a context-independent property than a context-dependent property. There should also be no systematic difference in response speeds for a context-independent property in the three different types of sentence frames (high context-independence). If a property is context-dependent then response speeds will vary across sentence frames, being the greatest in the same-biased condition. However, depending on the degree of context-dependence, response speeds may either be lower in both the unbiased and different biased conditions (high context dependence), or they may be the same in the both the same-biased and unbiased conditions and lower in only the different-biased conditions (moderate context-dependence--see Table 19).

Specifically, if salient properties are context-independent, then response speeds should be the same in the salience-biased, unbiased, and conceptual centrality-biased context. If salient properties are context-dependent, then response speeds should be the highest in the salience-biased condition. However, in the unbiased condition, response

speeds may be the same as in the salience-biased condition and lower only in the conceptual centrality-biased condition, indicating that the activation of salient properties is only moderately context-dependent, or they may be lower in both the unbiased and in the conceptual centrality-biased conditions, indicating that the activation of salient properties is highly context-dependent.

Table 19. Predictions for Degrees of Context Dependence

High Context Independence:

- Speed to verify context-independent property in an unbiased context should be higher than for context-dependent properties.
- There should be no systematic differences in response speeds for a context-independent property in the different types of sentence frames.

Moderate Context Dependence:

- Speed to verify a property will vary across sentence frames, being the highest in the same-biased condition.
- Speed to verify a property will be the same in the both the same-biased and unbiased conditions and be lower in only the different-biased conditions.

High Context Dependence:

- Speed to verify a property will vary across sentence frames, being the highest in the same-biased condition.
- Speed to verify a property will be lowest in both the unbiased and different biased conditions and will be highest in the same-biased condition.

Alternatively, if conceptually central properties are context-independent, then response speeds should be the same in the salience-biased, unbiased, and conceptual centrality-biased context. If conceptually central properties are context-dependent, then response speeds should be highest in the centrality-biased condition. However, they

may be just as high in the unbiased condition and lower only in the salience-biased condition, indicating that the activation of conceptually central properties is only moderately context-dependent, or they may be lower in both the unbiased and in the salience-biased conditions, indicating that the activation of conceptually central properties is highly context-dependent.

Method

Stimuli

Seventy-two items (e.g. frogs) were chosen for the true sentences, to create sentences for four different frame types (see Table 20). The chosen item always appeared at the end of the sentence and was always in capital letters. Each of the 72 items appeared in three different sentence frames including a salience-biased frame, a centrality-biased frame, and an unbiased frame (see Table 20). Each participant only saw a subset of eighteen sentences each for salience-biased, centrality-biased, and unbiased sentences. Each item was paired with two properties to create 144 item-property pairs. The properties were chosen so that one of the properties was a highly salient property (e.g. are green) of the item (e.g. frogs) and one of the properties was a highly central property (e.g. eats flies) of the item (e.g. frogs). Five undergraduate research assistants confirmed that the properties chosen for each item were either salient or central and that all of the sentence frames were biased appropriately.

Control sentences were also created in which the relevant item was only weakly related to the property (see Table 20). These control sentences were not based on the 72 items, but were built around the 144 properties, so that each property was paired once with an item for which the property was only weakly related. Seventy-two false

sentence-property pairs were also created and this set was seen by all of the participants. Therefore, in an individual experimental session, participants saw a total of 144 test sentences, seventy-two of which were true and seventy-two of which were false.

In addition to responding to the property verification sentences, participants were also asked periodically to respond to comprehension questions (see Appendix H). Each participant saw seventy-two comprehension questions. For half of the questions, the correct answer was yes, and for the other half the correct answer was no. The purpose of the comprehension questions was two-fold. First, the questions motivated participants to pay attention throughout the entire experiment. Second, they provided additional motivation for participants pay attention to the entire sentence, not just the capitalized word at the end of the sentence.

Table 20. Sample Property Verification Sentences in Different Contexts

	Properties	Contexts
True	are green	**Salience-biased**-- The lily pad provided camouflage for the FROGS.
	<	
True	eats flies	
True	are green	**Unbiased**-- Little Johnny went to the pond to catch FROGS.
	?	
True	eats flies	
True	are green	**Centrality-biased**--Timmy wanted to get food for the FROGS.
	>	
True	eats flies	
True	are green	**Control**--Kara picked flowers and cut the STEMS.
True	eats flies	**Control**--Climbing on the tree branch was an IGUANA.
False	is square	**False**--Karen couldn't believe Jack thought he saw a WITCH.

Eight different lists of the seventy-two true sentences were constructed (see Appendix H for the eight full lists of true sentences and the list of false sentences). To

create these eight final lists, the seventy-two true sentences were divided into eight groups of nine sentences each, one for each type of sentence context along with their corresponding property types. A Latin Square design was used to determine which sentence frame for each property appeared in each list. This ensured that each item appeared paired with a true sentence frame only once in each list. Hence, the seventy-two "true" sentences in each of the four final lists were made up of 18 centrality-biased sentences (9 items that were paired with a highly salient property and 9 that were paired with a highly central property), 18 salience-biased sentences (9 salient/9central), 18 unbiased sentences (9 salient/9 central), and 18 control sentences (9 salient/9 central). The presentation order of all sentences was randomized for each subject.

Participants

In Experiment 4, there were 64 participants. The data from 19 of these were dropped from the analysis because their responses indicated they were not responding appropriately (i.e. they gave all *yes* or all *no* responses). This left 45 participants who were included in the analysis. This unusually high proportion of bad participants was most likely due to the fact that a large portion of this data was not collected until end of the spring semester when there tends to be a higher proportion of bad participants. The participants were all University of Massachusetts undergraduates. Each participant was able to complete the experiment in less than 30 minutes and they received course credit for their participation.

Procedure

Participants were asked to read sentences that contained at least one noun (e.g. FROG). The relevant noun was capitalized and always appeared at the end of the

sentence. The sentence was presented on the screen and participants pressed the spacebar to move on to the property probe (e.g. eats flies). When the probe appeared on the screen, participants indicated their response by pressing the J button on the keyboard to indicate that the probe was a property of the capitalized noun or the F button to indicate that it was not. Response speeds were measured from the onset of the probe presentation to the time the response was made. Instructions were given to remind participants to respond to the property probe as quickly and as accurately as possible. Participants were also instructed that they would periodically receive comprehension questions that were based on the sentences they were reading (see Appendix H for a complete list of comprehension questions). This gave participants incentive to read the entire sentence and not to just focus on the last word. Participants used the same keys (J and F) to indicate their YES/NO answers to the comprehension questions.

Hypotheses

The first hypothesis was that if property activation for context-independent properties is automatic, then response speeds for context-independent properties should be higher than for context-dependent properties in an unbiased context and should be equally high in all sentence frames, but if a property is context-dependent then response speeds will vary across sentence frames. A second hypothesis was that, depending on the degree of context-dependence, response speeds may be lower than the same-biased condition in both the unbiased and different-biased conditions, or they may be the same in the both the same-biased and unbiased conditions and lower in only the different-biased conditions. A third hypothesis was that if a property is context-independent, then response speeds should be lower in the control condition than in any of the

contexts, because a control sentence should be designed so that its subject is only weakly related to its corresponding property, whereas in the experimental conditions, the subject noun will be chosen to maximize the relatedness between it and its corresponding properties.

To be specific, if salient properties are context-independent, then response speeds should be the same in the salience-biased, unbiased, and conceptual centrality-biased context and response speeds in these contexts should be higher than the response speed in the control condition. However, if salient properties are context-dependent, response speed will be highest in the salience-biased condition. They also may be just as high in the unbiased condition and lower in the conceptual centrality-biased condition. This would indicate that the activation of salient properties is only moderately context-dependent. They also may be lower in both the unbiased and in the conceptual centrality-biased conditions. This would indicate that the activation of salient properties is highly context-dependent. The implications are the same for the conceptually central properties.

Results

Because response latencies are usually positively skewed, response latencies were converted to response speeds by taking their reciprocals (1/RT) in order to reduce the impact of outliers (as recommended by Ratcliff, 1993). In addition, the response to the first sentence presented to each participant was omitted because these tended to be very slow (up to 40 seconds in one instance) and responses under 100 milliseconds were dropped. The mean response speed for the correct responses was then computed for each participant in each condition. The mean response speeds averaged across

participants are presented in Table 21 and Figure 11 and the mean reaction times are presented in Table 22.

The results from Experiment 4 are consistent with the findings from Experiment 3 (see Table 21 for response speeds and 22 for reaction times). Response speeds for the conceptually central properties in the same-biasing and unbiased sentence frame were higher ($F(1,44)=7.091$, $p=.011$), on average, than speeds for the salient properties in the same sentence frames. Looking at just the unbiased sentence context, response speeds for the conceptually central probe were higher than response speeds for the conceptually salient probe ($F(1,44)=4.36$, $p=.04$). For the centrality-biased sentence context, response speeds were marginally higher for the central probes than for the salient probes ($F(1,44)=2.66$, $p=.10$). These results, taken as a whole, appear to indicate that in the unbiased sentence context, conceptually central properties are activated more readily than conceptually salient properties and in the centrality-biased sentence context, conceptually central properties are activated somewhat more readily than conceptually salient properties.

Second, the response speed for the central property in the salient sentence frame was lower than the response speed for the central property in the unbiased and centrality-biased sentence frames ($F(1,44)=6.36$, $p=.015$). This result suggests, based on earlier predictions, that the activation of conceptually central properties is moderately context-dependent. Although the response speed for the salient property in the salient-biased sentence appears to be higher than response speeds in the unbiased and centrality-biased context, which would suggest high context dependency for the

activation of salient properties, the result of this contrast was not significant ($F(1,44)=1.53$, $p=.22$).

When examining the pattern of findings for the three types of experiment questions, there was a significant sentence type by probe type interaction ($F(2,88)=3.07$, $p=.05$). This result indicates that the pattern of response speeds for the central probes is different from the pattern for the salient probes. For the central probes, response

Table 21. Mean Response Speeds (sec^{-1}) as a Function of Probe and Sentence Type

		Sentence Type				
Property Type		**Unbiased**	**Central Bias**	**Salience Bias**	**Control**	**Marginal Means**
Central	$\bar{X}$	.867	.862	.822	.803	.839
	SE	.033	.032	.031	.028	.029
	CI	.801-.934	.798-.927	.760-.885	.746- .860	.781- .897
Salient	$\bar{X}$	.820	.825	.848	.807	.825
	SE	.031	.035	.030	.031	.028
	CI	.758-.883	.755- .896	.787-.909	.745-869	.769-.882
Marginal Means	$\bar{X}$	.844	.835	.844	.805	.832
	SE	.030	.028	.032	.027	.028
	CI	.784- .904	.780-.908	.779-.892	.750-.860	.776-.888

speeds were highest in the unbiased and centrality-biased condition and lower in the salience-biased condition and for the salient probes, although not significant, response speeds were lower in the unbiased and centrality-biased condition and higher in the

salience-biased condition. Again, this pattern of responding supports the hypothesis that the activation of conceptually central properties is moderately context-dependent, while the activation of conceptually salient properties may be highly context-dependent.

Table 22. Mean Reaction Times (msec) as a Function of Probe and Sentence Type

	Sentence Type				
Property Type	**Unbiased**	**Central Bias**	**Salience Bias**	**Control**	**Marginal Means**
Central	1153	1160	1217	1245	1192
Salient	1220	1212	1179	1239	1212
Marginal Means	1185	1198	1185	1242	1202

Lastly, the response speed for all three experimental sentences, averaged over probe type, was higher than the response speed for the control sentences ($F(1,44)=8.20$, $p=.006$). This, along with the previous results would indicate that the control sentences were correctly designed so that their subject was only weakly related to its property. This result also clearly demonstrates that both salience and centrality are important factors when talking about category properties and when trying to understand how properties are related to a given concept.

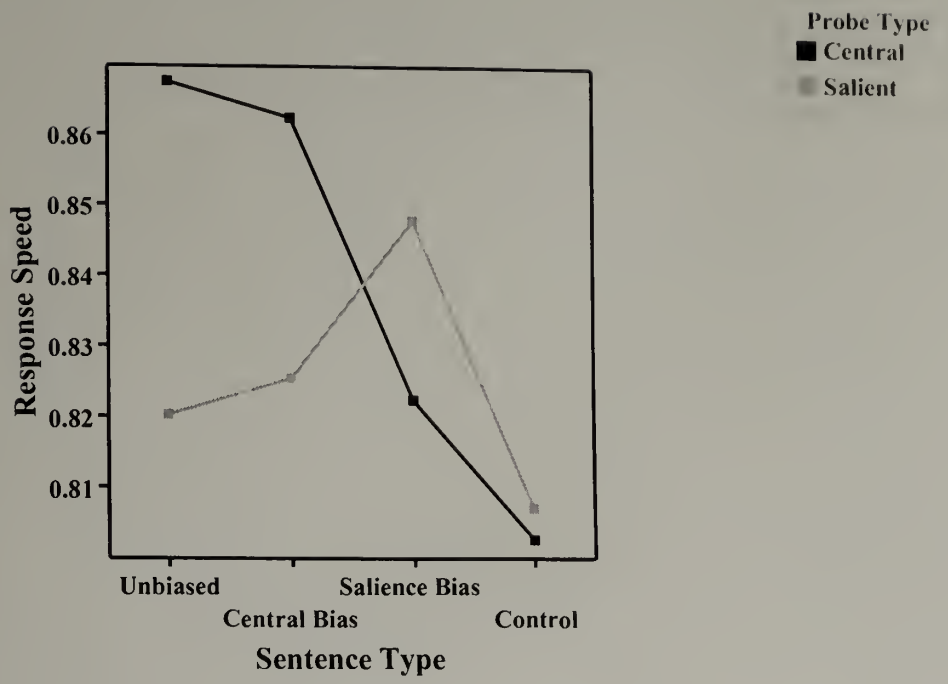

Figure 11. Response Speeds (sec^{-1}) for Sentence Type by Probe Type

Discussion

Barsalou (1982) stated that some kinds of properties might be context-independent while others may only be activated in relevant contexts. If either salient or conceptually central properties are context-independent, then response speeds should not depend upon sentence context but if they are context-dependent, there may be varying degrees of context-dependence. For highly context-dependent properties, response speeds should be highest in the same-biasing context and lower in the other contexts. For moderately context-dependent properties, response speeds may be equally high in the same-biasing and unbiased contexts and may only be lower in the different-biasing context.

The results appear to indicate that there is a difference in the activation patterns for central and salient properties. Highly central properties appear to be more readily available and more quickly activated than highly salient properties. For both the unbiased sentence type and the centrality-biased sentence type, the response speeds for the highly central properties were significantly higher than the response speeds for the highly salient properties. These results are consistent with the findings in Experiment 3, that people are more sensitive to the frequency of central properties than of salient properties.

The results also indicate that property availability for central properties is moderately context-dependent (see Table 21). Response speeds were higher in the same-biasing and unbiased contexts and lower in the different-biasing context. This finding supports the work of Sloman and Ahn (1999), by demonstrating that conceptual cores appear not to be rigid, but do have some degree of flexibility. Although the results were not significant for the salient properties, the pattern of results for the salient properties seems to be consistent with the hypothesis that salient properties are highly context-dependent. This would make sense, given that what is salient for an object is more likely to vary in different contexts (Barsalou, 1993), but what is central for a property is much more stable. However, in support of the work of Sloman and Ahn (1999), the evidence from Experiment 4 demonstrates that conceptual cores appear not to be rigid, but do have some degree of flexibility.

One critique of Experiment 4 was that the sentence contexts may have raised the activation level of some property probes before participants reached the noun prime at the end of the sentence (a pre-noun prime bias). For example, when participants read the

sentence frame, "The lily pad provided camouflage for the FROGS. " the salient property "green" may have been activated before participants reached the prime "frogs". However, the same sentence frame should not have activated the central property "eats flies". If a sufficient number of sentence frames were constructed in this manner, then this may have created a bias for increased response speeds for one type of sentence frame paired with one type of property.

A post-hoc analysis was conducted where I examined all of the sentence frames paired with all of their property probes for this type of bias. For the centrality-biased sentence frame paired with the central property and the salient-biased frame paired with the salient property, there was no significant difference in the overall proportion of pre-noun prime biased sentences (mean proportions respectively are .34 and .24, $\chi^2(1, 144) = 2.15, p = .14$). There was also not a significant difference in the proportion of pre-noun prime biased sentence contexts when comparing the unbiased sentence frames paired with both the central and salient properties (mean proportions respectively are .08 and .07, $\chi^2(1, 144) = .10, p = .75$). This indicates that the finding that conceptually central properties are activated more readily than conceptually salient properties in both unbiased and same-biasing contexts cannot be attributed to the manner in which the sentence frames were constructed.

Lastly, there was no significant difference in the proportion of pre-noun prime biased sentence contexts when comparing the average of the unbiased and centrality-biased sentence frames paired with the central property to the salient-biased sentence frame paired with the central property (mean proportions respectively are .21 and .17, $t(213) = -.87, p = .39$). Therefore, the finding that central properties are activated more

readily in unbiased and same-biasing contexts than different biasing contexts also cannot be attributed to the manner in which these sentences were conducted. It appears that the evidence for the context-dependency of central properties is valid.

CHAPTER 5

GENERAL DISCUSSION

Conclusions

Why is it interesting to study and understand what kinds of property information are activated in different contexts? By demonstrating that different properties are activated in different contexts, we can gain insight into how concepts are organized, stored, and accessed in long-term memory. Komatsu (1992) argued that without a way to constrain which attributes, regardless of context, are relevant for a given concept, exemplar models are faced with the same problem as the classical view of categorization. Just as it is difficult for classical theories to define what counts as a necessary and sufficient feature, there is no principled way for exemplar models or other category learning models to decide a priori which features are relevant for a concept and how the relevance of features could change in different contexts. For example, there are infinitely many properties for a simple concept like frog (e.g. green, eats flies, has skin, lives in a pond, can be eaten, breathes, has a tongue, can hop, etc.). However, in any given context, we only activate or retrieve a subset of these properties. What we activate is strongly affected by context surrounding the encounter with an item, but theories of category learning have yet to specify how context affects which properties are retrieved and whether classes of properties are affected differently in different contexts. The present studies, by exploring how central and salient properties are context-dependent and how different contexts affect property activation, have begun to explore and define these constraints.

Because past frequency estimation studies established that people could demonstrate sensitivity to implicit information (Barsalou & Ross, 1986), people should be sensitive to property frequency. In Experiment 3, the first significant finding of these studies was that participants in every context demonstrated frequency sensitivity to both conceptually central and conceptually salient properties. However, when a concept is activated, Sloman et al. (1998) would predict that central properties should resonate more strongly with a concept than salient properties because they should have more connections with that concept. Consequently, participants should be more likely to retrieve that concept or make contact with the concept's representation in memory when presented with a conceptually central property than when presented with a conceptually salient property. This would lead to more accurate frequency estimates for conceptually central properties than for conceptually salient properties. In fact, Experiment 3 demonstrated that participants were more accurate at estimating the frequency of conceptually central properties, a finding in accord with Sloman et al.'s theory that conceptually central properties are those properties that are central in a network of properties related to a given concept.

Although prior researchers have been unable to demonstrate sensitivity to property frequency (Barsalou & Ross, 1986; Sanders et al., 1987; Spalding & Murphy, 1999; Wattenmaker, 1993) for any type of property information, Experiment 3 provides clear evidence that people can be sensitive to property frequency for a variety of property types. Not only does property information appear to be activated when a concept is encountered (Barsalou & Ross' stage 1) but this activated information must be interacting with pre-existing memory structures (Barsalou & Ross' stage 2) as

evidenced by sensitivity to property frequency. Based on findings from Experiment 3, there appears to be convincing evidence that pre-existing memory structures exist for both salient and central property types.

If there are pre-existing memory structures for salient and central properties, what are these memory structures like--are they inflexible and rigid or are they flexible? Do these pre-existing memory structures, and possibly the flexibility with which they are tied to concepts differ depending on the type of property being activated? Recent work by Barsalou and colleagues (Barsalou, 2000; Wu and Barsalou, 2001; Yeh & Barsalou, 2000) has focused on the importance of situated concepts, which are very relevant to any discussion of the context-dependent nature of properties. However, unlike Barsalou's (1982) theory of context-dependent and context-independent properties, Barsalou, in his more recent work, has argued that all concepts have some components that are situationally specific (Thesis 1--see Yeh & Barsalou). In the theory of situated concepts, certain types of properties will always have the ability to become more or less relevant for a concept in different situations (Thesis 2). Yeh and Barsalou (p. 39) argue "...people do not store concepts in isolation—they store them with their background situations. Thus when situations become active, they activate their associated concepts...Conversely, when concepts become active, they activate their associated situations...When a concept is processed in a particular situation, properties become active for it that are relevant in the situation." Based on this account, there may not be core properties that become active for a concept in all situations. Sloman and Ahn's (1999) theory that category centrality is relative and that conceptual cores are not rigid appears to be in accord with the theory of situated concepts. So, in

fact, are the results from Experiment 4, which clearly demonstrate that the activation of central properties is context-dependent.

If, in fact, all concepts are context-dependent (or situated) and conceptual cores are flexible, why would salient properties be more affected by the surrounding context or situation than central properties? Neither theory alone provides a reasoned account as to how situations may differentially activate different kinds of properties and whether or not property flexibility varies for different property types. When taken together, however, I feel that the two theories provide a reasoned account as to why conceptually central properties would be less context-dependent or less situated than conceptually salient properties. According to Sloman et al. (1998), features that are more conceptually central also tend to be those properties that are more immutable than conceptually salient properties. Although very few properties of concepts are completely immutable (e.g. unmarried for bachelor), those properties that are more immutable should be those properties that show a lesser degree of context dependency. This is, in fact, what the results of these studies demonstrated. Conceptually central (more immutable) properties produced a pattern of response speeds that indicated moderate context-dependence. The response speeds for the conceptually salient, more mutable properties indicated that the activation of these properties was highly context-dependent. These results are also consistent with a theory of context-dependent concepts. Because conceptually central properties are more immutable, and therefore more relevant in a variety of contexts, the cognitive system would be best served if these properties are brought to mind more readily and in more contexts than

conceptually salient properties, which may be perceptually prominent but may have less inferential potency (Chaigneau & Barsalou, 2001) because of their mutability.

One might ask why context effects were found in Experiment 4 and not in Experiment 3. Recent work (Solomon & Barsalou, 2001; Wu & Barsalou, 2001) has provided a possible explanation for this inconsistency. Solomon and Barsalou and Wu and Barsalou both demonstrated that people perceptually simulate concepts when asked to perform tasks such as property generation and property verification. Wu and Barsalou (p. 2) argued, "uninstructed neutral subjects should spontaneously construct perceptual simulations to represent concepts and therefore should perform similarly to imagery subjects..." They stated that this occurs because when people encode a specific instance of a concept they store not just the abstracted exemplar, but also the neural states that occurred when perceiving the instance. Then, when retrieving these concepts from memory, people retrieve not an amodal concept, but a perceptually simulated concept. In their experiments (Solomon & Barsalou, Wu & Barsalou), the evidence indicated that participants performed perceptual simulations even when performing tasks such as property generation and property verification in neutral contexts. If the participants in Experiment 3 were perceptually simulating the list items in the neutral context and in the function context because of a preexisting bias to perform such simulations, there would be no evidence of context effects, because participants would be creating an image in all contexts. Because the sentence-property verification priming task in Experiment 4 looked at reaction time data, it was most likely more sensitive to different context effects.

In conclusion, what have these studies shown us about context dependency? Although the data from Experiment 3 was inconclusive regarding the effect of context on property activation, the data from Experiment 4 demonstrates context dependence for central properties and suggests context dependence for salient properties. These findings support the work of both Sloman and Ahn (1999), who stated that conceptual cores can change based on the task and on the context, and the more recent work of Barsalou (2000) and Yeh and Barsalou (2000), who hypothesized that all concepts are situated concepts and are affected by the situational context both at learning and at retrieval. Barsalou (2000, p. 4) stated, "By focusing on situations, the cognitive system simplifies many tasks. Rather than having to search everything in memory across all situations, the cognitive system focuses on the knowledge and skills relevant in the current situation."

Turning to the frequency estimation data, there is convincing evidence to indicate that property activation is automatic (Hasher & Zacks, 1984). However, as demonstrated in Experiment 4, the properties that are activated may not be the same in every context. This evidence for automatic activation in combination with the evidence as to how different property types show varying degrees of context dependency provides experimental support for Barsalou & Ross' automaticity hypothesis (1986) that people should show a greater frequency sensitivity to moderately context-dependent properties (central properties) than to highly context-dependent properties (Barsalou, 1982).

In addition to these findings, these studies also demonstrate the importance of conceptually central properties in concept representation (Ahn, 1998; Love, 1996;

Sloman et al., 1998). People do seem to be able to selectively access the centrality of properties. The evidence from Experiments 3 and 4 demonstrates that conceptually central properties are not only activated when a concept is activated, but are also activated more strongly than conceptually salient properties. This is evidenced both by more accurate frequency estimates (Experiment 3) and by consistently shorter property verification reaction times (Experiment 4) for conceptually salient properties.

In summary, these studies support the following conclusions:

1) All concepts are context-dependent and thus the properties brought to mind along with these concepts vary across situations or contexts (Barsalou, 2000; Yeh & Barsalou, 2000).

2) Conceptually central and more immutable properties appear to be less context-dependent than conceptually salient properties (Ahn, 1998; Barsalou, 2000; Sloman & Ahn, 1999; Sloman, Love, & Ahn, 1998;Yeh & Barsalou, 2000).

3) Conceptually central properties are brought to mind more consistently and more rapidly than conceptually salient properties (Barsalou & Ross, 1986; Hasher & Zacks, 1984).

Some Final Criticisms and Limitations

Although these findings are interesting and add to our knowledge of conceptual representation, there are a few potential criticisms that should be addressed. First, I did not examine other classification schemas for types of properties. For example, one existing schema classifies properties as components, regions, or materials. When talking about a pencil, "has an eraser" would be a component, "tip" would be a region, and "lead" would be a material. Work by Winston, Chaffin, & Herrmann (1987; see also Solomon & Barsalou, 2001) has demonstrated that people view property goodness as being highest for components, less good for regions, and lowest for

materials. Consequently, people are able to verify components more quickly than they can verify regions, and regions more quickly than they can verify materials. It is possible that property goodness was confounded with property type. If so, participants may have had faster reaction times to conceptually central properties not because they are activated more readily, but because more conceptually central properties than conceptually salient properties were components. This classification schema for properties, however, is not the only possible classification schema for properties. In fact, components, regions, and materials would only be relevant property types for concrete objects, not for more abstract concepts. It is important for future work to explore whether other classification schemas are relevant for understanding property activation.

Second, although the reaction time evidence from Experiment 3 appears to indicate that participants used more automatic, non-enumerative strategies when judging frequency, the results do not definitively rule out the possibility that participants did use enumeration. Although reaction times did not increase with increasing frequency, as they should when people use enumerative strategies, the average reaction times in this experiment were on the order of 4 to 6 seconds, which could have been enough time for participants to retrieve and count specific exemplars. In addition, the fact that reaction times did not increase with increasing frequency may have been due to extremely long reaction times for the 0 frequency items. Participants may have continued to search their memory for items which instantiated the 0 frequency property after an initial search returned no items, even though they had been informed in the instructions that there might be properties which occurred with

frequencies of 0. If so, these longer latencies would mask any evidence of increasing latencies with increasing frequencies. To explore this issue further, Experiment 3 should be re-run using response deadlines during the frequency estimation phase.

In Experiment 4, the average response latency was 1100-1300 msec. It is important to point out, in fact, that these studies only provide an account of how different property types recruit attention in different contexts, not at different points in processing. However, if we wish to look at the time course of property activation, as predicted by Lamberts' EGCM (1995, 1998), we would need to have responses made at much shorter latencies. In fact, to test the EGCM, both Experiment 3 and Experiment 4 should be rerun using response deadlines to more accurately assess how different types of properties are accessed at different points in processing. For Experiment 3, the EGCM should predict that participants may only be sensitive to the frequency of salient properties, given a short response deadline, wheras they should be sensitive to both salient and central properties given longer response deadlines. For Experiment 4, reaction times could no longer be the dependent measure, given that response deadlines would be used, but accuracy could instead be used to measure any changes in the activation of the different types of properties. The EGCM should predict that responses would be more accurate for salient properties early in processing, but would be equally accurate for salient and central properties given more processing time.

In addition, I would like to address my initial criticisms of Barsalou and Ross' (1986) study. Prior to running Experiment 3, I had commented that the items chosen by Barsalou and Ross were not very good examples of their categories. I also felt that they chose many items which instantiated a number of different properties in the set of probe

properties. Lastly, I indicated that Barsalou and Ross chose many items which instantiated different senses of the same property. Looking back on the care that I took to avoid these problems when choosing properties for Experiment 3, I was unable, given the constraints of the stimuli selection process, to completely avoid the same problems.

Future Directions

Future studies that look to explore how different properties are activated in different contexts should be directed at clarifying how, during learning, people decide which features are and are not relevant for a given exemplar. They should try to further define how property relevance changes in different situations. Studying these issues should help us develop a mechanism by which exemplar models or other category learning models can determine which features are relevant for a concept (Lamberts 1995, 1998), which features are not relevant for a concept, and, most importantly, how the relevance of features could change in different contexts. In addition, as noted previously, future studies should also be directed towards exploring other classification schemas for property types. Despite the fact that salience and centrality both appear to be important for understanding some of the above issues, other schemas may be more meaningful in different situations. Although these studies provide a preliminary examination of some of these issues, much work remains to be done in future studies to clarify how and to what extent context affects property activation for different types of properties.

APPENDIX A

COMPLETE SET OF IMAGINE QUESTIONS-EXPERIMENT 1

Set A

1. How easy is it to imagine a snake that isn't scary? _____
2. How easy is it to imagine a monster that isn't scary? _____
3. How easy is it to imagine a vampire that isn't scary? _____
4. How easy is it to imagine a bat that isn't scary? _____
5. How easy is it to imagine a spider that isn't scary? _____
6. How easy is it to imagine a haunted house that isn't scary? _____
7. How easy is it to imagine a ghost that isn't scary? _____
8. How easy is it to imagine a witch that isn't scary? _____
9. How easy is it to imagine a nightmare that isn't scary? _____
10. How easy is it to imagine a car that isn't fast? _____
11. How easy is it to imagine a cheetah that isn't fast? _____
12. How easy is it to imagine a plane that isn't fast? _____
13. How easy is it to imagine a millisecond that isn't fast? _____
14. How easy is it to imagine a leopard that isn't fast? _____
15. How easy is it to imagine a roadrunner that isn't fast? _____
16. How easy is it to imagine a sports car that isn't fast? _____
17. How easy is it to imagine a racecar that isn't fast? _____
18. How easy is it to imagine track athletes that aren't fast? _____
19. How easy is it to imagine a horse race that isn't fast? _____
20. How easy is it to imagine a Concorde that isn't fast? _____
21. How easy is it to imagine a train that isn't fast? _____
22. How easy is it to imagine a speedboat that isn't fast? _____
23. How easy is it to imagine light that isn't fast? _____
24. How easy is it to imagine cyanide that isn't poisonous? _____
25. How easy is it to imagine lead that isn't poisonous? _____
26. How easy is it to imagine chemicals that aren't poisonous? _____
27. How easy is it to imagine venom that isn't poisonous? _____
28. How easy is it to imagine strychnine that isn't poisonous? _____
29. How easy is it to imagine ammonia that isn't poisonous? _____
30. How easy is it to imagine bleach that isn't poisonous? _____
31. How easy is it to imagine roach killer that isn't poisonous? _____
32. How easy is it to imagine a weed killer that isn't poisonous? _____
33. How easy is it to imagine a spider that isn't poisonous? _____

34. How easy is it to imagine a gas that isn't poisonous? _____
35. How easy is it to imagine a household cleaner that isn't poisonous? _____
36. How easy is it to imagine a berry that isn't poisonous? _____
37. How easy is it to imagine hemlock that isn't poisonous? _____
38. How easy is it to imagine a clock face that isn't round? _____
39. How easy is it to imagine a traffic circle that isn't round? _____
40. How easy is it to imagine a ring that isn't round? _____
41. How easy is it to imagine a wheel that isn't round? _____
42. How easy is it to imagine glasses that aren't round? _____
43. How easy is it to imagine a dome that isn't round? _____
44. How easy is it to imagine a planet that isn't round? _____
45. How easy is it to imagine a moon that isn't round? _____
46. How easy is it to imagine a CD that isn't round? _____
47. How easy is it to imagine a record that isn't round? _____
48. How easy is it to imagine eyes that aren't round? _____
49. How easy is it to imagine a ball that isn't round? _____
50. How easy is it to imagine a lollipop that isn't round? _____
51. How easy is it to imagine an orange that isn't round? _____
52. How easy is it to imagine an earth that isn't round? _____
53. How easy is it to imagine a sun that isn't round? _____
54. How easy is it to imagine a cookie that isn't round? _____
55. How easy is it to imagine a glass that isn't clear? _____
56. How easy is it to imagine water that isn't clear? _____
57. How easy is it to imagine tears that aren't clear? _____
58. How easy is it to imagine plastic that isn't clear? _____
59. How easy is it to imagine air that isn't clear? _____
60. How easy is it to imagine cellophane that isn't clear? _____
61. How easy is it to imagine Plexiglas that isn't clear? _____
62. How easy is it to imagine a window that isn't clear? _____
63. How easy is it to imagine eyeglasses that aren't clear? _____
64. How easy is it to imagine saran wrap that isn't clear? _____
65. How easy is it to imagine broth that isn't clear? _____
66. How easy is it to imagine contacts that aren't clear? _____
67. How easy is it to imagine bread that isn't grainy? _____
68. How easy is it to imagine wood that isn't grainy? _____
69. How easy is it to imagine cereal that isn't grainy? _____
70. How easy is it to imagine sand that isn't grainy? _____

71. How easy is it to imagine dirt that isn't grainy? _____
72. How easy is it to imagine grout that isn't grainy? _____
73. How easy is it to imagine sandpaper that isn't grainy? _____
74. How easy is it to imagine sugar that isn't grainy? _____
75. How easy is it to imagine a desk that isn't wooden? _____
76. How easy is it to imagine a chair that isn't wooden? _____
77. How easy is it to imagine a bed that isn't wooden? _____
78. How easy is it to imagine a house that isn't wooden? _____
79. How easy is it to imagine shutters that aren't wooden? _____
80. How easy is it to imagine pirate legs that aren't wooden? _____
81. How easy is it to imagine a door that isn't wooden? _____
82. How easy is it to imagine birdhouses that aren't wooden? _____
83. How easy is it to imagine fence posts that aren't wooden? _____
84. How easy is it to imagine dressers that aren't wooden? _____
85. How easy is it to imagine a bench that isn't wooden? _____
86. How easy is it to imagine a crate that isn't wooden? _____
87. How easy is it to imagine a tree that isn't wooden? _____
88. How easy is it to imagine a baseball bat that isn't wooden? _____
89. How easy is it to imagine a puppet that isn't wooden? _____
90. How easy is it to imagine blocks that aren't wooden? _____
91. How easy is it to imagine floors that aren't wooden? _____
92. How easy is it to imagine cabinets that aren't wooden? _____
93. How easy is it to imagine an oar that isn't wooden? _____
94. How easy is it to imagine a log cabin that isn't wooden? _____
95. How easy is it to imagine pencils that aren't wooden? _____
96. How easy is it to imagine a raft that isn't wooden? _____
97. How easy is it to imagine a car that doesn't have wheels? _____
98. How easy is it to imagine a truck that doesn't have wheels? _____
99. How easy is it to imagine a bicycle that doesn't have wheels? _____
100. How easy is it to imagine a tricycle that doesn't have wheels? _____
101. How easy is it to imagine an airplane that doesn't have wheels? _____
102. How easy is it to imagine a van that doesn't have wheels? _____
103. How easy is it to imagine a skateboard that doesn't have wheels? _____
104. How easy is it to imagine a scooter that doesn't have wheels? _____
105. How easy is it to imagine a motorcycle that doesn't have wheels? _____
106. How easy is it to imagine a wheelchair that doesn't have wheels? _____
107. How easy is it to imagine an office chair that doesn't have wheels? _____

108.How easy is it to imagine a wagon that doesn't have wheels? _____

109.How easy is it to imagine a wheelbarrow that doesn't have wheels? _____

110.How easy is it to imagine a train that doesn't have wheels? _____

111.How easy is it to imagine a unicycle that doesn't have wheels? _____

112.How easy is it to imagine a baby carriage that doesn't have wheels? _____

113.How easy is it to imagine a roller coaster that doesn't have wheels? _____

114.How easy is it to imagine a go-cart that doesn't have wheels? _____

115.How easy is it to imagine a bus that doesn't have wheels? _____

116.How easy is it to imagine a matchbox car that doesn't have wheels? _____

117.How easy is it to imagine roller skates that don't have wheels? _____

118.How easy is it to imagine roller blades that don't have wheels? _____

119.How easy is it to imagine toys that don't have wheels? _____

120.How easy is it to imagine a tire that isn't rubber? _____

121.How easy is it to imagine a ball that isn't rubber? _____

122.How easy is it to imagine a doll that isn't rubber? _____

123.How easy is it to imagine a garden hose that isn't rubber? _____

124.How easy is it to imagine latex gloves that aren't rubber? _____

125.How easy is it to imagine rain boots that aren't rubber? _____

126.How easy is it to imagine an eraser that isn't rubber? _____

127.How easy is it to imagine dish gloves that aren't rubber? _____

128.How easy is it to imagine Tupperware that isn't plastic? _____

129.How easy is it to imagine a CD case that isn't plastic? _____

130.How easy is it to imagine a cup that isn't plastic? _____

131.How easy is it to imagine straws that aren't plastic? _____

132.How easy is it to imagine shampoo bottles that aren't plastic? _____

133.How easy is it to imagine soda bottles that aren't plastic? _____

134.How easy is it to imagine a pen that isn't plastic? _____

135.How easy is it to imagine shopping bags that aren't plastic? _____

136.How easy is it to imagine cassette tapes that aren't plastic? _____

137.How easy is it to imagine a milk jug that isn't plastic? _____

138.How easy is it to imagine a bottle that isn't plastic? _____

139.How easy is it to imagine an apricot that isn't orange? _____

140.How easy is it to imagine a carrot that isn't orange? _____

141.How easy is it to imagine a construction sign that isn't orange? _____

142.How easy is it to imagine an orange that isn't orange? _____

143.How easy is it to imagine Sunkist soda that isn't orange? _____

144.How easy is it to imagine a road cone that isn't orange? _____

145.How easy is it to imagine a tiger that isn't orange? _____

146.How easy is it to imagine a sun that isn't orange? _____

147.How easy is it to imagine a pumpkin that isn't orange? _____

148.How easy is it to imagine a grape that isn't juicy? _____

149.How easy is it to imagine citrus fruit that isn't juicy? _____

150.How easy is it to imagine candy that isn't juicy? _____

151.How easy is it to imagine a melon that isn't juicy? _____

152.How easy is it to imagine an orange that isn't juicy? _____

153.How easy is it to imagine a strawberry that isn't juicy? _____

154.How easy is it to imagine a plum that isn't juicy? _____

155.How easy is it to imagine a steak that isn't juicy? _____

156.How easy is it to imagine a pineapple that isn't juicy? _____

157.How easy is it to imagine an apple that isn't juicy? _____

158.How easy is it to imagine a peach that isn't juicy? _____

159.How easy is it to imagine a grapefruit that isn't juicy? _____

160.How easy is it to imagine a drinking glass that isn't glass? _____

161.How easy is it to imagine a TV screen that wasn't glass? _____

162.How easy is it to imagine a window that isn't glass? _____

163.How easy is it to imagine a mirror that isn't glass? _____

164.How easy is it to imagine a vase that isn't glass? _____

165.How easy is it to imagine a bowl that isn't glass? _____

166.How easy is it to imagine a wine glass that isn't glass? _____

167.How easy is it to imagine a green house that isn't glass? _____

168.How easy is it to imagine a bottle that isn't glass? _____

169.How easy is it to imagine a cup that isn't glass? _____

170.How easy is it to imagine a light bulb that isn't glass? _____

171.How easy is it to imagine a windshield that isn't glass? _____

172.How easy is it to imagine a Tupperware container that doesn't store things? _____

173.How easy is it to imagine a box that doesn't store things? _____

174.How easy is it to imagine a bag that doesn't store things? _____

175.How easy is it to imagine a closet that doesn't store things? _____

176.How easy is it to imagine a crate that doesn't store things? _____

177.How easy is it to imagine a dresser that doesn't store things? _____

178.How easy is it to imagine a cabinet that doesn't store things? _____

179.How easy is it to imagine an attic that doesn't store things? _____

180.How easy is it to imagine a garage that doesn't store things? _____

181.How easy is it to imagine a trunk that doesn't store things? _____

182.How easy is it to imagine drawers that don't store things? _____

183.How easy is it to imagine a suitcase that doesn't store things? _____

184.How easy is it to imagine a pantry that doesn't store things? _____

185.How easy is it to imagine a cellar that doesn't store things? _____

186.How easy is it to imagine a chest that doesn't store things? _____

187.How easy is it to imagine a locker that doesn't store things? _____

188.How easy is it to imagine a folder that doesn't store things? _____

189.How easy is it to imagine a computer file that doesn't store things? _____

190.How easy is it to imagine a desk that doesn't store things? _____

191.How easy is it to imagine a shelf that doesn't store things? _____

192.How easy is it to imagine a refrigerator that doesn't store things? _____

193.How easy is it to imagine a time capsule that doesn't store things? _____

194.How easy is it to imagine a safe that doesn't store things? _____

195.How easy is it to imagine a shed that doesn't store things? _____

196.How easy is it to imagine a bank that doesn't store things? _____

197.How easy is it to imagine a fruit that isn't grown on trees? _____

198.How easy is it to imagine an apple that isn't grown on trees? _____

199.How easy is it to imagine an orange that isn't grown on trees? _____

200.How easy is it to imagine a banana that isn't grown on trees? _____

201.How easy is it to imagine leaves that aren't grown on trees? _____

202.How easy is it to imagine bark that isn't grown on trees? _____

203.How easy is it to imagine flowers that aren't grown on trees? _____

204.How easy is it to imagine plums that aren't grown on trees? _____

205.How easy is it to imagine pears that aren't grown on trees? _____

206.How easy is it to imagine lemons that aren't grown on trees? _____

207.How easy is it to imagine limes that aren't grown on trees? _____

208.How easy is it to imagine grapefruits that aren't grown on trees? _____

209.How easy is it to imagine a fungus that isn't grown on trees? _____

210.How easy is it to imagine peaches that aren't grown on trees? _____

211.How easy is it to imagine branches that aren't grown on trees? _____

212.How easy is it to imagine cherries that aren't grown on trees? _____

213.How easy is it to imagine pinecones that aren't grown on trees? _____

214.How easy is it to imagine nuts that aren't grown on trees? _____

215.How easy is it to imagine an animal that doesn't have fur? _____

216.How easy is it to imagine a dog that doesn't have fur? _____

217.How easy is it to imagine a cat that doesn't have fur? _____

218.How easy is it to imagine a bear that doesn't have fur? _____

219.How easy is it to imagine a tiger that doesn't have fur? _____

220.How easy is it to imagine a lion that doesn't have fur? _____

221.How easy is it to imagine a raccoon that doesn't have fur? _____

222.How easy is it to imagine a rabbit that doesn't have fur? _____

223.How easy is it to imagine a squirrel that doesn't have fur? _____

224.How easy is it to imagine a deer that doesn't have fur? _____

225.How easy is it to imagine a mammal that doesn't have fur? _____

226.How easy is it to imagine a stuffed toy that doesn't have fur? _____

227.How easy is it to imagine a gerbil that doesn't have fur? _____

228.How easy is it to imagine a hamster that doesn't have fur? _____

229.How easy is it to imagine a sky that isn't blue? _____

230.How easy is it to imagine an ocean that isn't blue? _____

231.How easy is it to imagine water that isn't blue? _____

232.How easy is it to imagine blood that isn't blue? _____

233.How easy is it to imagine a vein that isn't blue? _____

234.How easy is it to imagine ink that isn't blue? _____

235.How easy is it to imagine blueberries that aren't blue? _____

236.How easy is it to imagine jeans that aren't blue? _____

237.How easy is it to imagine lakes that aren't blue? _____

238.How easy is it to imagine a police car that isn't blue? _____

239.How easy is it to imagine baby boy's clothes that aren't blue? _____

240.How easy is it to imagine police uniforms that aren't blue? _____

241.How easy is it to imagine school uniforms that aren't blue? _____

242.How easy is it to imagine a building that isn't large? _____

243.How easy is it to imagine a universe that isn't large? _____

244.How easy is it to imagine an elephant that isn't large? _____

245.How easy is it to imagine a bear that isn't large? _____

246.How easy is it to imagine a wooly mammoth that isn't large? _____

247.How easy is it to imagine a warehouse that isn't large? _____

248.How easy is it to imagine an ocean that isn't large? _____

249.How easy is it to imagine office buildings that aren't large? _____

250.How easy is it to imagine a sun that isn't large? _____

251.How easy is it to imagine a moon that isn't large? _____

252.How easy is it to imagine mountains that aren't large? _____

253.How easy is it to imagine rainbows that aren't large? _____

254.How easy is it to imagine seas that aren't large? _____

255.How easy is it to imagine a forest that isn't large? _____

256.How easy is it to imagine continents that aren't large? _____

257.How easy is it to imagine cities that aren't large? _____

258.How easy is it to imagine a planet that isn't large? _____

259.How easy is it to imagine a galaxy that isn't large? _____

260.How easy is it to imagine a solar system that isn't large? _____

261.How easy is it to imagine a whale that isn't large? _____

262.How easy is it to imagine a giraffe that isn't large? _____

263.How easy is it to imagine granola that isn't crunchy? _____

264.How easy is it to imagine candy that isn't crunchy? _____

265.How easy is it to imagine nuts that aren't crunchy? _____

266.How easy is it to imagine pretzels that aren't crunchy? _____

267.How easy is it to imagine crackers that aren't crunchy? _____

268.How easy is it to imagine chips that aren't crunchy? _____

269.How easy is it to imagine celery that isn't crunchy? _____

270.How easy is it to imagine carrots that aren't crunchy? _____

271.How easy is it to imagine rice krispies that aren't crunchy? _____

272.How easy is it to imagine apples that aren't crunchy? _____

273.How easy is it to imagine a man that doesn't walk? _____

274.How easy is it to imagine a dog that doesn't walk? _____

275.How easy is it to imagine a cat that doesn't walk? _____

276.How easy is it to imagine an animal that doesn't walk? _____

277.How easy is it to imagine an elephant that doesn't walk? _____

278.How easy is it to imagine birds that don't walk? _____

279.How easy is it to imagine insects that don't walk? _____

280.How easy is it to imagine a horse that doesn't walk? _____

281.How easy is it to imagine a cow that doesn't walk? _____

282.How easy is it to imagine a sheep that doesn't walk? _____

283.How easy is it to imagine a donkey that doesn't walk? _____

284.How easy is it to imagine a camel that doesn't walk? _____

285.How easy is it to imagine a robot that doesn't walk? _____

286.How easy is it to imagine a bird that can't fly? _____

287.How easy is it to imagine an airplane that can't fly? _____

288.How easy is it to imagine a rocket that can't fly? _____

289.How easy is it to imagine insects that can't fly? _____

290.How easy is it to imagine kites that can't fly? _____

291.How easy is it to imagine hang gliders that can't fly? _____

292.How easy is it to imagine a bee that can't fly? _____

293.How easy is it to imagine a butterfly that can't fly? _____

294.How easy is it to imagine fly saucers that can't fly? _____

295.How easy is it to imagine a fly that can't fly? _____

296.How easy is it to imagine a space shuttle that can't fly? _____

297.How easy is it to imagine a helicopter that can't fly? _____

298.How easy is it to imagine an eagle that can't fly? _____

299.How easy is it to imagine a hawk that can't fly? _____

300.How easy is it to imagine a sparrow that can't fly? _____

301.How easy is it to imagine a robin that can't fly? _____

302.How easy is it to imagine a jet that can't fly? _____

303.How easy is it to imagine a Frisbee that can't fly? _____

304.How easy is it to imagine a cardinal that isn't red? _____

305.How easy is it to imagine lips that aren't red? _____

306.How easy is it to imagine strawberries that aren't red? _____

307.How easy is it to imagine raspberries that aren't red? _____

308.How easy is it to imagine berries that aren't red? _____

309.How easy is it to imagine a watermelon that isn't red? _____

310.How easy is it to imagine an apple that isn't red? _____

311.How easy is it to imagine a tomato that isn't red? _____

312.How easy is it to imagine blood that isn't red? _____

313.How easy is it to imagine roses that aren't red? _____

314.How easy is it to imagine stop signs that aren't red? _____

315.How easy is it to imagine cherries that aren't red? _____

316.How easy is it to imagine hearts that aren't red? _____

317.How easy is it to imagine fire engines that aren't red? _____

318.How easy is it to imagine peppers that aren't red? _____

319.How easy is it to imagine cardinals that aren't red? _____

320.How easy is it to imagine people that don't swim? _____

321.How easy is it to imagine a fish that doesn't swim? _____

322.How easy is it to imagine sharks that don't swim? _____

323.How easy is it to imagine a turtle that doesn't swim? _____

324.How easy is it to imagine eels that don't swim? _____

325.How easy is it to imagine ducks that don't swim? _____

326.How easy is it to imagine swans that don't swim? _____

327.How easy is it to imagine a dolphin that doesn't swim? _____

328.How easy is it to imagine a whale that doesn't swim? _____

329.How easy is it to imagine a penguin that doesn't swim? _____

330.How easy is it to imagine an animal that doesn't have a tail? _____

331.How easy is it to imagine a donkey that doesn't have a tail? _____

332.How easy is it to imagine a horse that doesn't have a tail? _____

333.How easy is it to imagine a bird that doesn't have a tail? _____

334.How easy is it to imagine a whale that doesn't have a tail? _____

335.How easy is it to imagine a cat that doesn't have a tail? _____

336.How easy is it to imagine an elephant that doesn't have a tail? _____

337.How easy is it to imagine a rabbit that doesn't have a tail? _____

338.How easy is it to imagine a deer that doesn't have a tail? _____

339.How easy is it to imagine a rat that doesn't have a tail? _____

340.How easy is it to imagine a mouse that doesn't have a tail? _____

341.How easy is it to imagine a dog that doesn't have a tail? _____

342.How easy is it to imagine a lizard that doesn't have a tail? _____

343.How easy is it to imagine a lion that doesn't have a tail? _____

344.How easy is it to imagine a pig that doesn't have a tail? _____

345.How easy is it to imagine a cow that doesn't have a tail? _____

346.How easy is it to imagine a kangaroo that doesn't have a tail? _____

347.How easy is it to imagine a monkey that doesn't have a tail? _____

348.How easy is it to imagine a fox that doesn't have a tail? _____

349.How easy is it to imagine a kite that doesn't have a tail? _____

350.How easy is it to imagine a human that isn't alive? _____

351.How easy is it to imagine an animal that isn't alive? _____

352.How easy is it to imagine a plant that isn't alive? _____

353.How easy is it to imagine a frog that isn't alive? _____

354.How easy is it to imagine a bug that isn't alive? _____

355.How easy is it to imagine a rabbit that isn't alive? _____

356.How easy is it to imagine a worm that isn't alive? _____

357.How easy is it to imagine a bear that isn't alive? _____

358.How easy is it to imagine a dog that isn't alive? _____

359.How easy is it to imagine a cat that isn't alive? _____

360.How easy is it to imagine a fish that isn't alive? _____

361.How easy is it to imagine a horse that isn't alive? _____

362.How easy is it to imagine an ant that isn't alive? _____

363.How easy is it to imagine a fly that isn't alive? _____

364.How easy is it to imagine grass that isn't alive? _____

365.How easy is it to imagine a flower that isn't alive? _____

366.How easy is it to imagine an organism that isn't alive? _____

367.How easy is it to imagine bacteria that aren't alive? _____

368.How easy is it to imagine a mammal that isn't alive? _____

369.How easy is it to imagine fungus that isn't alive? _____

370.How easy is it to imagine a bird that isn't alive? _____

371.How easy is it to imagine a virus that isn't alive? _____

372.How easy is it to imagine a food that isn't edible? _____

373.How easy is it to imagine a candy that isn't edible? _____

374.How easy is it to imagine a vegetable that isn't edible? _____

375.How easy is it to imagine a fruit that isn't edible? _____

376.How easy is it to imagine meat that isn't edible? _____

377.How easy is it to imagine cereal that isn't edible? _____

378.How easy is it to imagine a cookie that isn't edible? _____

379.How easy is it to imagine a chicken that isn't edible? _____

380.How easy is it to imagine a hamburger that isn't edible? _____

381.How easy is it to imagine a banana that isn't edible? _____

382.How easy is it to imagine an apple that isn't edible? _____

383.How easy is it to imagine an orange that isn't edible? _____

384.How easy is it to imagine a carrot that isn't edible? _____

385.How easy is it to imagine rice that isn't edible? _____

386.How easy is it to imagine a noodle that isn't edible? _____

387.How easy is it to imagine an ice cube that isn't edible? _____

388.How easy is it to imagine a fish that isn't edible? _____

389.How easy is it to imagine cheese that isn't edible? _____

390.How easy is it to imagine a pocketbook that isn't leather? _____

391.How easy is it to imagine a coat that isn't leather? _____

392.How easy is it to imagine a saddle that isn't leather? _____

393.How easy is it to imagine a boot that isn't leather? _____

394.How easy is it to imagine a watchband that isn't leather? _____

395.How easy is it to imagine a belt that isn't leather? _____

Set B

396.How easy is it to imagine a couch that isn't leather? _____

397.How easy is it to imagine a car interior that isn't leather? _____

398.How easy is it to imagine a shoe that isn't leather? _____

399.How easy is it to imagine a wallet that isn't leather? _____

400.How easy is it to imagine a briefcase that isn't leather? _____

401.How easy is it to imagine a cup that doesn't have a handle? _____

402.How easy is it to imagine a mug that doesn't have a handle? _____

403.How easy is it to imagine a pot that doesn't have a handle? _____

404.How easy is it to imagine a pocketbook that doesn't have a handle? _____

405.How easy is it to imagine a basket that doesn't have a handle? _____

406.How easy is it to imagine a car door that doesn't have a handle? _____

407.How easy is it to imagine a lunch box that doesn't have a handle? _____

408.How easy is it to imagine a toolbox that doesn't have a handle? _____

409.How easy is it to imagine a briefcase that doesn't have a handle? _____

410.How easy is it to imagine an umbrella that doesn't have a handle? _____

411.How easy is it to imagine a shopping bag that doesn't have a handle? _____

412.How easy is it to imagine a pan that doesn't have a handle? _____

413.How easy is it to imagine glue that isn't sticky? _____

414.How easy is it to imagine tape that isn't sticky? _____

415.How easy is it to imagine bubble gum that isn't sticky? _____

416.How easy is it to imagine tar that isn't sticky? _____

417.How easy is it to imagine honey that isn't sticky? _____

418.How easy is it to imagine syrup that isn't sticky? _____

419.How easy is it to imagine molasses that isn't sticky? _____

420.How easy is it to imagine candy that isn't sticky? _____

421.How easy is it to imagine a lollipop that isn't sticky? _____

422.How easy is it to imagine a scotch tape that isn't sticky? _____

423.How easy is it to imagine a packing tape that isn't sticky? _____

424.How easy is it to imagine adhesive that isn't sticky? _____

425.How easy is it to imagine a band-aid that isn't sticky? _____

426.How easy is it to imagine a rubber cement that isn't sticky? _____

427.How easy is it to imagine a sticker that isn't sticky? _____

428.How easy is it to imagine jelly that isn't sticky? _____

429.How easy is it to imagine jam that isn't sticky? _____

430.How easy is it to imagine peanut butter that isn't sticky? _____

431.How easy is it to imagine garbage that isn't smelly? _____

432.How easy is it to imagine manure that isn't smelly? _____

433.How easy is it to imagine a skunk that isn't smelly? _____

434.How easy is it to imagine a foot that isn't smelly? _____

435.How easy is it to imagine ammonia that isn't smelly? _____

436.How easy is it to imagine bleach that isn't smelly? _____

437.How easy is it to imagine fish that isn't smelly? _____

438.How easy is it to imagine a rotten egg that isn't smelly? _____

439.How easy is it to imagine a gym sock that isn't smelly? _____

440.How easy is it to imagine a public bathroom that isn't smelly? _____

441.How easy is it to imagine spoiled milk that isn't smelly? _____

442.How easy is it to imagine garlic that isn't smelly? _____

443.How easy is it to imagine an onion that isn't smelly? _____

444.How easy is it to imagine sulfur that isn't smelly? _____

445.How easy is it to imagine a body order that isn't smelly? _____

446.How easy is it to imagine a halitosis that isn't smelly? _____

447.How easy is it to imagine water that isn't liquid? _____

448.How easy is it to imagine juice that isn't liquid? _____

449.How easy is it to imagine soda that isn't liquid? _____

450.How easy is it to imagine beer that isn't liquid? _____

451.How easy is it to imagine wine that isn't liquid? _____

452.How easy is it to imagine alcohol that isn't liquid? _____

453.How easy is it to imagine blood that isn't liquid? _____

454.How easy is it to imagine rain that isn't liquid? _____

455.How easy is it to imagine milk that isn't liquid? _____

456.How easy is it to imagine oil that isn't liquid? _____

457.How easy is it to imagine a tear that isn't liquid? _____

458.How easy is it to imagine a soup that isn't liquid? _____

459.How easy is it to imagine a pool that isn't liquid? _____

460.How easy is it to imagine an ocean that isn't liquid? _____

461.How easy is it to imagine a sun that isn't hot? _____

462.How easy is it to imagine a fire that isn't hot? _____

463.How easy is it to imagine an oven that isn't hot? _____

464.How easy is it to imagine a stovetop that isn't hot? _____

465.How easy is it to imagine a candle that isn't hot? _____

466.How easy is it to imagine a fireplace that isn't hot? _____

467.How easy is it to imagine a heater that isn't hot? _____

468.How easy is it to imagine a summer that isn't hot? _____

469.How easy is it to imagine cayenne pepper that isn't hot? _____

470.How easy is it to imagine coffee that isn't hot? _____

471.How easy is it to imagine tea that isn't hot? _____

472.How easy is it to imagine cinnamon that isn't hot? _____

473.How easy is it to imagine a jalapeno that isn't hot? _____

474.How easy is it to imagine a chipolte pepper that isn't hot? _____

475.How easy is it to imagine salsa that isn't hot? _____

476.How easy is it to imagine a toaster that isn't hot? _____

477.How easy is it to imagine boiling water that isn't hot? _____

478.How easy is it to imagine steam that isn't hot? _____

479.How easy is it to imagine a chili pepper that isn't hot? _____

480.How easy is it to imagine a candy that isn't sweet? _____

481.How easy is it to imagine a fruit that isn't sweet? _____

482.How easy is it to imagine a cake that isn't sweet? _____

483.How easy is it to imagine a cookie that isn't sweet? _____

484.How easy is it to imagine a pie that isn't sweet? _____

485.How easy is it to imagine ice cream that isn't sweet? _____

486.How easy is it to imagine a Popsicle that isn't sweet? _____

487.How easy is it to imagine juice that isn't sweet? _____

488.How easy is it to imagine a soda that isn't sweet? _____

489.How easy is it to imagine honey that isn't sweet? _____

490.How easy is it to imagine chocolate that isn't sweet? _____

491.How easy is it to imagine an apple that isn't sweet? _____

492.How easy is it to imagine caramel that isn't sweet? _____

493.How easy is it to imagine a cherry that isn't sweet? _____

494.How easy is it to imagine a pastry that isn't sweet? _____

495.How easy is it to imagine a cotton candy that isn't sweet? _____

496.How easy is it to imagine lemonade that isn't sweet? _____

497.How easy is it to imagine a lollipop that isn't sweet? _____

498.How easy is it to imagine a gumdrop that isn't sweet? _____

499.How easy is it to imagine a dessert that isn't sweet? _____

500.How easy is it to imagine a knife that isn't sharp? _____

501.How easy is it to imagine a sword that isn't sharp? _____

502.How easy is it to imagine a thumbtack that isn't sharp? _____

503.How easy is it to imagine a razor that isn't sharp? _____

504.How easy is it to imagine scissors that aren't sharp? _____

505.How easy is it to imagine a blade that isn't sharp? _____

506.How easy is it to imagine a needle that isn't sharp? _____

507.How easy is it to imagine a worm that isn't slimy? _____

508.How easy is it to imagine mucus that isn't slimy? _____

509.How easy is it to imagine a snail that isn't slimy? _____

510.How easy is it to imagine a leech that isn't slimy? _____

511.How easy is it to imagine seaweed that isn't slimy? _____

512.How easy is it to imagine a jellyfish that isn't slimy? _____

513.How easy is it to imagine an oyster that isn't slimy? _____

514.How easy is it to imagine a lotion that isn't slimy? _____

515.How easy is it to imagine oil that isn't slimy? _____

516.How easy is it to imagine a slug that isn't slimy? _____

517.How easy is it to imagine an airplane that isn't noisy? _____

518.How easy is it to imagine traffic that isn't noisy? _____

519.How easy is it to imagine a drum that isn't noisy? _____

520.How easy is it to imagine a siren that isn't noisy? _____

521.How easy is it to imagine a horn that isn't noisy? _____

522.How easy is it to imagine a cymbal that isn't noisy? _____

523.How easy is it to imagine a party that isn't noisy? _____

524.How easy is it to imagine a concert that isn't noisy? _____

525.How easy is it to imagine a club that isn't noisy? _____

526.How easy is it to imagine a drill that isn't noisy? _____

527.How easy is it to imagine a jackhammer that isn't noisy? _____

528.How easy is it to imagine a crying baby that isn't noisy? _____

529.How easy is it to imagine construction that isn't noisy? _____

530.How easy is it to imagine fireworks that aren't noisy? _____

531.How easy is it to imagine a lemon that isn't sour? _____

532.How easy is it to imagine a lime that isn't sour? _____

533.How easy is it to imagine vinegar that isn't sour? _____

534.How easy is it to imagine bad milk that isn't sour? _____

535.How easy is it to imagine a green apple that isn't sour? _____

536.How easy is it to imagine a rabbit that doesn't hop? _____

537.How easy is it to imagine a kangaroo that doesn't hop? _____

538.How easy is it to imagine a grasshopper that doesn't hop? _____

539.How easy is it to imagine a frog that doesn't hop? _____

540.How easy is it to imagine a toad that doesn't hop? _____

541.How easy is it to imagine a cricket that doesn't hop? _____

542.How easy is it to imagine a Tigger that doesn't hop? _____

543.How easy is it to imagine a flea that doesn't hop? _____

544.How easy is it to imagine a peanut that doesn't have a shell? _____

545.How easy is it to imagine a walnut that doesn't have a shell? _____

546.How easy is it to imagine a pecan that doesn't have a shell? _____

547.How easy is it to imagine a chestnut that doesn't have a shell? _____

548.How easy is it to imagine a mollusk that doesn't have a shell? _____

549.How easy is it to imagine a clam that doesn't have a shell? _____

550.How easy is it to imagine a snail that doesn't have a shell? _____

551.How easy is it to imagine a crab that doesn't have a shell? _____

552.How easy is it to imagine a shrimp that doesn't have a shell? _____

553.How easy is it to imagine a scallop that doesn't have a shell? _____

554.How easy is it to imagine a lobster that doesn't have a shell? _____

555.How easy is it to imagine a seed that doesn't have a shell? _____

556.How easy is it to imagine a cashew that doesn't have a shell? _____

557.How easy is it to imagine a pistachio that doesn't have a shell? _____

558.How easy is it to imagine a turtle that doesn't have a shell? _____

559.How easy is it to imagine an oyster that doesn't have a shell? _____

560.How easy is it to imagine a hermit crab that doesn't have a shell? _____

561.How easy is it to imagine an M&M that doesn't have a shell? _____

562.How easy is it to imagine a sun that isn't yellow? _____

563.How easy is it to imagine a lemon that isn't yellow? _____

564.How easy is it to imagine a highlighter that isn't yellow? _____

565.How easy is it to imagine lemonade that isn't yellow? _____

566.How easy is it to imagine a banana that isn't yellow? _____

567.How easy is it to imagine a tennis ball that isn't yellow? _____

568.How easy is it to imagine corn that isn't yellow? _____

569.How easy is it to imagine a yield sign that isn't yellow? _____

570.How easy is it to imagine a school bus that isn't yellow? _____

571.How easy is it to imagine a bee that isn't yellow? _____

572.How easy is it to imagine cheese that isn't yellow? _____

573.How easy is it to imagine a taxi that isn't yellow? _____

574.How easy is it to imagine a big bird that isn't yellow? _____

575.How easy is it to imagine a legal pad that isn't yellow? _____

576.How easy is it to imagine a pillow that isn't soft? _____

577.How easy is it to imagine cotton that isn't soft? _____

578.How easy is it to imagine skin that isn't soft? _____

579.How easy is it to imagine fur that isn't soft? _____

580.How easy is it to imagine a kitten that isn't soft? _____

581.How easy is it to imagine a puppy that isn't soft? _____

582.How easy is it to imagine silk that isn't soft? _____

583.How easy is it to imagine cashmere that isn't soft? _____

584.How easy is it to imagine a rabbit that isn't soft? _____

585.How easy is it to imagine a baby that isn't soft? _____

586.How easy is it to imagine a rose petal that isn't soft? _____

587.How easy is it to imagine satin that isn't soft? _____

588.How easy is it to imagine velvet that isn't soft? _____

589.How easy is it to imagine a feather that isn't soft? _____

590.How easy is it to imagine a fruit that doesn't have seeds? _____

591.How easy is it to imagine a vegetable that doesn't have seeds? _____

592.How easy is it to imagine a tree that doesn't have seeds? _____

593.How easy is it to imagine an apple that doesn't have seeds? _____

594.How easy is it to imagine a grape that doesn't have seeds? _____

595.How easy is it to imagine a tomato that doesn't have seeds? _____

596.How easy is it to imagine a pumpkin that doesn't have seeds? _____

597.How easy is it to imagine a sunflower that doesn't have seeds? _____

598.How easy is it to imagine an orange that doesn't have seeds? _____

599.How easy is it to imagine a grapefruit that doesn't have seeds? _____

600.How easy is it to imagine a watermelon that doesn't have seeds? _____

601.How easy is it to imagine a cucumber that doesn't have seeds? _____

602.How easy is it to imagine snow that isn't cold? _____

603.How easy is it to imagine a freezer that isn't cold? _____

604.How easy is it to imagine a cellar that isn't cold? _____

605.How easy is it to imagine Antarctica that isn't cold? _____

606.How easy is it to imagine ice cream that isn't cold? _____

607.How easy is it to imagine an ice cube that isn't cold? _____

608.How easy is it to imagine a Popsicle that isn't cold? _____

609.How easy is it to imagine a winter that isn't cold? _____

610.How easy is it to imagine a blizzard that isn't cold? _____

611.How easy is it to imagine a refrigerator that isn't cold? _____

612.How easy is it to imagine air-conditioning that isn't cold? _____

613.How easy is it to imagine a swimming-pool that isn't cold? _____

614.How easy is it to imagine a glacier that isn't cold? _____

615.How easy is it to imagine a frozen-food that isn't cold? _____

616.How easy is it to imagine an icicle that isn't cold? _____

617.How easy is it to imagine an animal that doesn't have skin? _____

618.How easy is it to imagine a person that doesn't have skin? _____

619.How easy is it to imagine a grape that doesn't have skin? _____

620.How easy is it to imagine chicken that doesn't have skin? _____

621.How easy is it to imagine a cow that doesn't have skin? _____

622.How easy is it to imagine a dog that doesn't have skin? _____

623.How easy is it to imagine a rabbit that doesn't have skin? _____

624.How easy is it to imagine a bird that doesn't have skin? _____

625.How easy is it to imagine a monkey that doesn't have skin? _____

626.How easy is it to imagine an onion that doesn't have skin? _____

627.How easy is it to imagine garlic that doesn't have skin? _____

628.How easy is it to imagine an apple that doesn't have skin? _____

629.How easy is it to imagine a tomato that doesn't have skin? _____

630.How easy is it to imagine a mammal that doesn't have skin? _____

631.How easy is it to imagine a reptile that doesn't have skin? _____

632.How easy is it to imagine a snake that doesn't have skin? _____

633.How easy is it to imagine an alligator that doesn't have skin? _____

634.How easy is it to imagine a fruit that doesn't have skin? _____

635.How easy is it to imagine a vegetable that doesn't have skin? _____

636.How easy is it to imagine a mirror that isn't reflective? _____

637.How easy is it to imagine glass that isn't reflective? _____

638.How easy is it to imagine aluminum that isn't reflective? _____

639.How easy is it to imagine chrome that isn't reflective? _____

640.How easy is it to imagine steel that isn't reflective? _____

641.How easy is it to imagine a potato chip that isn't salty? _____

642.How easy is it to imagine a pretzel that isn't salty? _____

643.How easy is it to imagine a nacho chip that isn't salty? _____

644.How easy is it to imagine soy sauce that isn't salty? _____

645.How easy is it to imagine seawater that isn't salty? _____

646.How easy is it to imagine a margarita that isn't salty? _____

647.How easy is it to imagine a tear that isn't salty? _____

648.How easy is it to imagine a food that isn't salty? _____

649.How easy is it to imagine sweat that isn't salty? _____

650.How easy is it to imagine popcorn that isn't salty? _____

651.How easy is it to imagine a peanut that isn't salty? _____

652.How easy is it to imagine a nut that isn't salty? _____

653.How easy is it to imagine a cracker that isn't salty? _____

654.How easy is it to imagine a french fry that isn't salty? _____

655.How easy is it to imagine a saltine that isn't salty? _____

656.How easy is it to imagine a flower that doesn't have leaves? _____

657.How easy is it to imagine a bush that doesn't have leaves? _____

658.How easy is it to imagine a vine that doesn't have leaves? _____

659.How easy is it to imagine a plant that doesn't have leaves? _____

660.How easy is it to imagine a forest that doesn't have leaves? _____

661.How easy is it to imagine an oak that doesn't have leaves? _____

662.How easy is it to imagine an herb that doesn't have leaves? _____

663.How easy is it to imagine a weed that doesn't have leaves? _____

664.How easy is it to imagine lettuce that doesn't have leaves? _____

665.How easy is it to imagine spinach that doesn't have leaves? _____

666.How easy is it to imagine a bear that isn't ferocious? _____

667.How easy is it to imagine a lion that isn't ferocious? _____

668.How easy is it to imagine a tiger that isn't ferocious? _____

669.How easy is it to imagine an alligator that isn't ferocious? _____

670.How easy is it to imagine a crocodile that isn't ferocious? _____

671.How easy is it to imagine a wild animal that isn't ferocious? _____

672.How easy is it to imagine glass that isn't transparent? _____

673.How easy is it to imagine Plexiglas that isn't transparent? _____

674.How easy is it to imagine plastic that isn't transparent? _____

675.How easy is it to imagine a soda bottle that isn't transparent? _____

676.How easy is it to imagine air that isn't transparent? _____

677.How easy is it to imagine water that isn't transparent? _____

678.How easy is it to imagine oil that isn't transparent? _____

679.How easy is it to imagine a tear that isn't transparent? _____

680.How easy is it to imagine ice that isn't transparent? _____

681.How easy is it to imagine a yield sign that isn't triangular? _____

682.How easy is it to imagine a piece of pie that isn't triangular? _____

683.How easy is it to imagine a sandwich that isn't triangular? _____

684.How easy is it to imagine a slice of pizza that isn't triangular? _____

685.How easy is it to imagine an airplane that isn't dangerous? _____

686.How easy is it to imagine a wet road that isn't dangerous? _____

687.How easy is it to imagine a fire that isn't dangerous? _____

688.How easy is it to imagine an earthquake that isn't dangerous? _____

689.How easy is it to imagine a hurricane that isn't dangerous? _____

690.How easy is it to imagine a tornado that isn't dangerous? _____

691.How easy is it to imagine a robber that isn't dangerous? _____

692.How easy is it to imagine a murderer that isn't dangerous? _____

693.How easy is it to imagine a snake that isn't dangerous? _____

694.How easy is it to imagine a cancer that isn't dangerous? _____

695.How easy is it to imagine a stroke that isn't dangerous? _____

696.How easy is it to imagine a wild animal that isn't dangerous? _____

697.How easy is it to imagine a war that isn't dangerous? _____

698.How easy is it to imagine a lion that isn't dangerous? _____

699.How easy is it to imagine a gun that isn't dangerous? _____

700.How easy is it to imagine a knife that isn't dangerous? _____

701.How easy is it to imagine drag racing that isn't dangerous? _____

702.How easy is it to imagine scuba diving that isn't dangerous? _____

703.How easy is it to imagine a wheel that doesn't roll? _____

704.How easy is it to imagine a ball that doesn't roll? _____

705.How easy is it to imagine a log that doesn't roll? _____

706.How easy is it to imagine a tire that doesn't roll? _____

707.How easy is it to imagine a snowball that doesn't roll? _____

708.How easy is it to imagine a penny that doesn't roll? _____

709.How easy is it to imagine a cat that isn't furry? _____

710.How easy is it to imagine a dog that isn't furry? _____

711.How easy is it to imagine a hamster that isn't furry? _____

712.How easy is it to imagine a gerbil that isn't furry? _____

713.How easy is it to imagine a squirrel that isn't furry? _____

714.How easy is it to imagine a rabbit that isn't furry? _____

715.How easy is it to imagine an animal that isn't furry? _____

716.How easy is it to imagine a tree that isn't tall? _____

717.How easy is it to imagine a building that isn't tall? _____

718.How easy is it to imagine a ladder that isn't tall? _____

719.How easy is it to imagine a flagpole that isn't tall? _____

720.How easy is it to imagine a tower that isn't tall? _____

721.How easy is it to imagine a streetlight that isn't tall? _____

722.How easy is it to imagine a basketball player that isn't tall? _____

723.How easy is it to imagine a telephone pole that isn't tall? _____

724.How easy is it to imagine a mountain that isn't tall? _____

725.How easy is it to imagine leaves that aren't green? _____

726.How easy is it to imagine grass that isn't green? _____

727.How easy is it to imagine a tree that isn't green? _____

728.How easy is it to imagine a vegetable that isn't green? _____

729.How easy is it to imagine broccoli that isn't green? _____

730.How easy is it to imagine a pea that isn't green? _____

731.How easy is it to imagine money that isn't green? _____

732.How easy is it to imagine a plant that isn't green? _____

733.How easy is it to imagine an apple that isn't green? _____

734.How easy is it to imagine a traffic-light that isn't green? _____

735.How easy is it to imagine a frog that isn't green? _____

736.How easy is it to imagine a lizard that isn't green? _____

737.How easy is it to imagine moss that isn't green? _____

738.How easy is it to imagine a pear that isn't green? _____

739.How easy is it to imagine an herb that isn't green? _____

740.How easy is it to imagine artificial turf that isn't green? _____

741.How easy is it to imagine an emerald that isn't green? _____

742.How easy is it to imagine a shamrock that isn't green? _____

743.How easy is it to imagine Mexican food that isn't spicy? _____

744.How easy is it to imagine Indian food that isn't spicy? _____

745.How easy is it to imagine a buffalo wing that isn't spicy? _____

746.How easy is it to imagine Cajun food that isn't spicy? _____

747.How easy is it to imagine construction work that isn't loud? _____

748.How easy is it to imagine yelling that isn't loud? _____

749.How easy is it to imagine screaming that isn't loud? _____

750.How easy is it to imagine crying that isn't loud? _____

751.How easy is it to imagine a horn that isn't loud? _____

752.How easy is it to imagine traffic that isn't loud? _____

753.How easy is it to imagine an earthquake that isn't loud? _____

754.How easy is it to imagine an accident that isn't loud? _____

755.How easy s it to imagine a motorcycle that isn't loud? _____

756.How easy is it to imagine a jackhammer that isn't loud? _____

757.How easy is it to imagine an airplane that isn't loud? _____

758.How easy is it to imagine a concert that isn't loud? _____

759.How easy is it to imagine an avalanche that isn't loud? _____

760.How easy is it to imagine an explosion that isn't loud? _____

761.How easy is it to imagine gun-fire that isn't loud? _____

762.How easy is it to imagine a siren that isn't loud? _____

763.How easy is it to imagine a firework that isn't loud? _____

764.How easy is it to imagine a baby crying that isn't loud? _____

765.How easy is it to imagine stomping that isn't loud? _____

766.How easy is it to imagine thunder that isn't loud? _____

767.How easy is it to imagine a rocket that isn't loud? _____

768.How easy is it to imagine a first class ticket that isn't extravagant? _____

769.How easy is it to imagine jewelry that isn't extravagant? _____

770.How easy is it to imagine a diamond that isn't extravagant? _____

771.How easy is it to imagine a wedding that isn't extravagant? _____

772.How easy is it to imagine a Broadway play that isn't extravagant? _____

773.How easy is it to imagine a palace that isn't extravagant? _____

774.How easy is it to imagine a yacht that isn't extravagant? _____

775.How easy is it to imagine a ball gown that isn't extravagant? _____

776.How easy is it to imagine a wedding cake that isn't extravagant? _____

777.How easy is it to imagine a fancy wine that isn't extravagant? _____

778.How easy is it to imagine a Dalmatian that isn't spotted? _____

779.How easy is it to imagine a cow that isn't spotted? _____

780.How easy is it to imagine a cheetah that isn't spotted? _____

781.How easy is it to imagine a leopard that isn't spotted? _____

782.How easy is it to imagine a winter that isn't freezing? _____

783.How easy is it to imagine a freezer that isn't freezing? _____

784.How easy is it to imagine air conditioning that isn't freezing? _____

785.How easy is it to imagine ice that isn't freezing? _____

786.How easy is it to imagine snow that isn't freezing? _____

787.How easy is it to imagine ice cream that isn't freezing? _____

788.How easy is it to imagine a north pole that isn't freezing? _____

789.How easy is it to imagine a Popsicle that isn't freezing? _____

790.How easy is it to imagine sleet that isn't freezing? _____

APPENDIX B

COMPLETE SET OF SURPRISE QUESTIONS-EXPERIMENT 1

Set A

1. How surprised would you be to find a snake that isn't scary? _____
2. How surprised would you be to find a monster that isn't scary? _____
3. How surprised would you be to find a vampire that isn't scary? _____
4. How surprised would you be to find a bat that isn't scary? _____
5. How surprised would you be to find a spider that isn't scary? _____
6. How surprised would you be to find a haunted house that isn't scary? _____
7. How surprised would you be to find a ghost that isn't scary? _____
8. How surprised would you be to find a witch that isn't scary? _____
9. How surprised would you be to find a nightmare that isn't scary? _____
10. How surprised would you be to find a car that isn't fast? _____
11. How surprised would you be to find a cheetah that isn't fast? _____
12. How surprised would you be to find a plane that isn't fast? _____
13. How surprised would you be to find a millisecond that isn't fast? _____
14. How surprised would you be to find a leopard that isn't fast? _____
15. How surprised would you be to find a roadrunner that isn't fast? _____
16. How surprised would you be to find a sports car that isn't fast? _____
17. How surprised would you be to find a racecar that isn't fast? _____
18. How surprised would you be to find track athletes that aren't fast? _____
19. How surprised would you be to find a horse race that isn't fast? _____
20. How surprised would you be to find a Concorde that isn't fast? _____
21. How surprised would you be to find a train that isn't fast? _____
22. How surprised would you be to find a speedboat that isn't fast? _____
23. How surprised would you be to find light that isn't fast? _____
24. How surprised would you be to find cyanide that isn't poisonous? _____
25. How surprised would you be to find lead that isn't poisonous? _____
26. How surprised would you be to find chemicals that aren't poisonous? _____
27. How surprised would you be to find venom that isn't poisonous? _____
28. How surprised would you be to find strychnine that isn't poisonous? _____
29. How surprised would you be to find ammonia that isn't poisonous? _____
30. How surprised would you be to find bleach that isn't poisonous? _____
31. How surprised would you be to find roach killer that isn't poisonous? _____
32. How surprised would you be to find a weed killer that isn't poisonous? _____

33. How surprised would you be to find a spider that isn't poisonous? _____
34. How surprised would you be to find a gas that isn't poisonous? _____
35. How surprised would you be to find a household cleaner that isn't poisonous? _____
36. How surprised would you be to find a berry that isn't poisonous? _____
37. How surprised would you be to find hemlock that isn't poisonous? _____
38. How surprised would you be to find a clock face that isn't round? _____
39. How surprised would you be to find a traffic circle that isn't round? _____
40. How surprised would you be to find a ring that isn't round? _____
41. How surprised would you be to find a wheel that isn't round? _____
42. How surprised would you be to find glasses that aren't round? _____
43. How surprised would you be to find a dome that isn't round? _____
44. How surprised would you be to find a planet that isn't round? _____
45. How surprised would you be to find a moon that isn't round? _____
46. How surprised would you be to find a CD that isn't round? _____
47. How surprised would you be to find a record that isn't round? _____
48. How surprised would you be to find eyes that aren't round? _____
49. How surprised would you be to find a ball that isn't round? _____
50. How surprised would you be to find a lollipop that isn't round? _____
51. How surprised would you be to find an orange that isn't round? _____
52. How surprised would you be to find an earth that isn't round? _____
53. How surprised would you be to find a sun that isn't round? _____
54. How surprised would you be to find a cookie that isn't round? _____
55. How surprised would you be to find a glass that isn't clear? _____
56. How surprised would you be to find water that isn't clear? _____
57. How surprised would you be to find tears that aren't clear? _____
58. How surprised would you be to find plastic that isn't clear? _____
59. How surprised would you be to find air that isn't clear? _____
60. How surprised would you be to find cellophane that isn't clear? _____
61. How surprised would you be to find Plexiglas that isn't clear? _____
62. How surprised would you be to find a window that isn't clear? _____
63. How surprised would you be to find eyeglasses that aren't clear? _____
64. How surprised would you be to find saran wrap that isn't clear? _____
65. How surprised would you be to find broth that isn't clear? _____
66. How surprised would you be to find contacts that aren't clear? _____
67. How surprised would you be to find bread that isn't grainy? _____
68. How surprised would you be to find wood that isn't grainy? _____
69. How surprised would you be to find cereal that isn't grainy? _____

70. How surprised would you be to find sand that isn't grainy? _____
71. How surprised would you be to find dirt that isn't grainy? _____
72. How surprised would you be to find grout that isn't grainy? _____
73. How surprised would you be to find sandpaper that isn't grainy? _____
74. How surprised would you be to find sugar that isn't grainy? _____
75. How surprised would you be to find a desk that isn't wooden? _____
76. How surprised would you be to find a chair that isn't wooden? _____
77. How surprised would you be to find a bed that isn't wooden? _____
78. How surprised would you be to find a house that isn't wooden? _____
79. How surprised would you be to find shutters that aren't wooden? _____
80. How surprised would you be to find pirate legs that aren't wooden? _____
81. How surprised would you be to find a door that isn't wooden? _____
82. How surprised would you be to find birdhouses that aren't wooden? _____
83. How surprised would you be to find fence posts that aren't wooden? _____
84. How surprised would you be to find dressers that aren't wooden? _____
85. How surprised would you be to find a bench that isn't wooden? _____
86. How surprised would you be to find a crate that isn't wooden? _____
87. How surprised would you be to find a tree that isn't wooden? _____
88. How surprised would you be to find a baseball bat that isn't wooden? _____
89. How surprised would you be to find a puppet that isn't wooden? _____
90. How surprised would you be to find blocks that aren't wooden? _____
91. How surprised would you be to find floors that aren't wooden? _____
92. How surprised would you be to find cabinets that aren't wooden? _____
93. How surprised would you be to find an oar that isn't wooden? _____
94. How surprised would you be to find a log cabin that isn't wooden? _____
95. How surprised would you be to find pencils that aren't wooden? _____
96. How surprised would you be to find a raft that isn't wooden? _____
97. How surprised would you be to find a car that doesn't have wheels? _____
98. How surprised would you be to find a truck that doesn't have wheels? _____
99. How surprised would you be to find a bicycle that doesn't have wheels? _____
100. How surprised would you be to find a tricycle that doesn't have wheels? _____
101. How surprised would you be to find an airplane that doesn't have wheels? _____
102. How surprised would you be to find a van that doesn't have wheels? _____
103. How surprised would you be to find a skateboard that doesn't have wheels? _____
104. How surprised would you be to find a scooter that doesn't have wheels? _____
105. How surprised would you be to find a motorcycle that doesn't have wheels? _____
106. How surprised would you be to find a wheelchair that doesn't have wheels? _____

107.How surprised would you be to find an office chair that doesn't have wheels? _____

108.How surprised would you be to find a wagon that doesn't have wheels? _____

109.How surprised would you be to find a wheelbarrow that doesn't have wheels? _____

110.How surprised would you be to find a train that doesn't have wheels? _____

111.How surprised would you be to find a unicycle that doesn't have wheels? _____

112.How surprised would you be to find a baby carriage that doesn't have wheels? _____

113.How surprised would you be to find a roller coaster that doesn't have wheels? _____

114.How surprised would you be to find a go-cart that doesn't have wheels? _____

115.How surprised would you be to find a bus that doesn't have wheels? _____

116.How surprised would you be to find a matchbox car that doesn't have wheels? _____

117.How surprised would you be to find roller skates that don't have wheels? _____

118.How surprised would you be to find roller blades that don't have wheels? _____

119.How surprised would you be to find toys that don't have wheels? _____

120.How surprised would you be to find a tire that isn't rubber? _____

121.How surprised would you be to find a ball that isn't rubber? _____

122.How surprised would you be to find a doll that isn't rubber? _____

123.How surprised would you be to find a garden hose that isn't rubber? _____

124.How surprised would you be to find latex gloves that aren't rubber? _____

125.How surprised would you be to find rain boots that aren't rubber? _____

126.How surprised would you be to find an eraser that isn't rubber? _____

127.How surprised would you be to find dish gloves that aren't rubber? _____

128.How surprised would you be to find Tupperware that isn't plastic? _____

129.How surprised would you be to find a CD case that isn't plastic? _____

130.How surprised would you be to find a cup that isn't plastic? _____

131.How surprised would you be to find straws that aren't plastic? _____

132.How surprised would you be to find shampoo bottles that aren't plastic? _____

133.How surprised would you be to find soda bottles that aren't plastic? _____

134.How surprised would you be to find a pen that isn't plastic? _____

135.How surprised would you be to find shopping bags that aren't plastic? _____

136.How surprised would you be to find cassette tapes that aren't plastic? _____

137.How surprised would you be to find a milk jug that isn't plastic? _____

138.How surprised would you be to find a bottle that isn't plastic? _____

139.How surprised would you be to find an apricot that isn't orange? _____

140.How surprised would you be to find a carrot that isn't orange? _____

141.How surprised would you be to find a construction sign that isn't orange? _____

142.How surprised would you be to find an orange that isn't orange? _____

143.How surprised would you be to find Sunkist soda that isn't orange? _____

144.How surprised would you be to find a road cone that isn't orange? _____

145.How surprised would you be to find a tiger that isn't orange? _____

146.How surprised would you be to find a sun that isn't orange? _____

147.How surprised would you be to find a pumpkin that isn't orange? _____

148.How surprised would you be to find a grape that isn't juicy? _____

149.How surprised would you be to find citrus fruit that isn't juicy? _____

150.How surprised would you be to find candy that isn't juicy? _____

151.How surprised would you be to find a melon that isn't juicy? _____

152.How surprised would you be to find an orange that isn't juicy? _____

153.How surprised would you be to find a strawberry that isn't juicy? _____

154.How surprised would you be to find a plum that isn't juicy? _____

155.How surprised would you be to find a steak that isn't juicy? _____

156.How surprised would you be to find a pineapple that isn't juicy? _____

157.How surprised would you be to find an apple that isn't juicy? _____

158.How surprised would you be to find a peach that isn't juicy? _____

159.How surprised would you be to find a grapefruit that isn't juicy? _____

160.How surprised would you be to find a drinking glass that isn't glass? _____

161.How surprised would you be to find a TV screen that wasn't glass? _____

162.How surprised would you be to find a window that isn't glass? _____

163.How surprised would you be to find a mirror that isn't glass? _____

164.How surprised would you be to find a vase that isn't glass? _____

165.How surprised would you be to find a bowl that isn't glass? _____

166.How surprised would you be to find a wine glass that isn't glass? _____

167.How surprised would you be to find a green house that isn't glass? _____

168.How surprised would you be to find a bottle that isn't glass? _____

169.How surprised would you be to find a cup that isn't glass? _____

170.How surprised would you be to find a light bulb that isn't glass? _____

171.How surprised would you be to find a windshield that isn't glass? _____

172.How surprised would you be to find Tupperware container that doesn't store things? _____

173.How surprised would you be to find a box that doesn't store things? _____

174.How surprised would you be to find a bag that doesn't store things? _____

175.How surprised would you be to find a closet that doesn't store things? _____

176.How surprised would you be to find a crate that doesn't store things? _____

177.How surprised would you be to find a dresser that doesn't store things? _____

178.How surprised would you be to find a cabinet that doesn't store things? _____

179.How surprised would you be to find an attic that doesn't store things? _____

180.How surprised would you be to find a garage that doesn't store things? _____

181.How surprised would you be to find a trunk that doesn't store things? _____

182.How surprised would you be to find drawers that don't store things? _____

183.How surprised would you be to find a suitcase that doesn't store things? _____

184.How surprised would you be to find a pantry that doesn't store things? _____

185.How surprised would you be to find a cellar that doesn't store things? _____

186.How surprised would you be to find a chest that doesn't store things? _____

187.How surprised would you be to find a locker that doesn't store things? _____

188.How surprised would you be to find a folder that doesn't store things? _____

189.How surprised would you be to find a computer file that doesn't store things? _____

190.How surprised would you be to find a desk that doesn't store things? _____

191.How surprised would you be to find a shelf that doesn't store things? _____

192.How surprised would you be to find a refrigerator that doesn't store things? _____

193.How surprised would you be to find a time capsule that doesn't store things? _____

194.How surprised would you be to find a safe that doesn't store things? _____

195.How surprised would you be to find a shed that doesn't store things? _____

196.How surprised would you be to find a bank that doesn't store things? _____

197.How surprised would you be to find a fruit that doesn't grow on trees? _____

198.How surprised would you be to find apples that don't grow on trees? _____

199.How surprised would you be to find oranges that don't grow on trees? _____

200.How surprised would you be to find bananas that don't grow on trees? _____

201.How surprised would you be to find leaves that aren't grow on trees? _____

202.How surprised would you be to find bark that isn't growing on trees? _____

203.How surprised would you be to find flowers that don't grow on trees? _____

204.How surprised would you be to find plums that don't grow on trees? _____

205.How surprised would you be to find pears that don't grow on trees? _____

206.How surprised would you be to find lemons that don't grow on trees? _____

207.How surprised would you be to find limes that don't grow on trees? _____

208.How surprised would you be to find grapefruits that don't grow on trees? _____

209.How surprised would you be to find fungus that doesn't grow on trees? _____

210.How surprised would you be to find peaches that don't grow on trees? _____

211.How surprised would you be to find branches that don't grow on trees? _____

212.How surprised would you be to find cherries that don't grow on trees? _____

213.How surprised would you be to find pinecones that don't grow on trees? _____

214.How surprised would you be to find nuts that don't grow on trees? _____

215.How surprised would you be to find an animal that doesn't have fur? _____

216.How surprised would you be to find a dog that doesn't have fur? _____

217.How surprised would you be to find a cat that doesn't have fur? _____

218.How surprised would you be to find a bear that doesn't have fur? _____

219.How surprised would you be to find a tiger that doesn't have fur? _____

220.How surprised would you be to find a lion that doesn't have fur? _____

221.How surprised would you be to find a raccoon that doesn't have fur? _____

222.How surprised would you be to find a rabbit that doesn't have fur? _____

223.How surprised would you be to find a squirrel that doesn't have fur? _____

224.How surprised would you be to find a deer that doesn't have fur? _____

225.How surprised would you be to find a mammal that doesn't have fur? _____

226.How surprised would you be to find a stuffed toy that doesn't have fur? _____

227.How surprised would you be to find a gerbil that doesn't have fur? _____

228.How surprised would you be to find a hamster that doesn't have fur? _____

229.How surprised would you be to find a sky that isn't blue? _____

230.How surprised would you be to find an ocean that isn't blue? _____

231.How surprised would you be to find water that isn't blue? _____

232.How surprised would you be to find blood that isn't blue? _____

233.How surprised would you be to find a vein that isn't blue? _____

234.How surprised would you be to find ink that isn't blue? _____

235.How surprised would you be to find blueberries that aren't blue? _____

236.How surprised would you be to find jeans that aren't blue? _____

237.How surprised would you be to find lakes that aren't blue? _____

238.How surprised would you be to find a police car that isn't blue? _____

239.How surprised would you be to find baby boy's clothes that aren't blue? _____

240.How surprised would you be to find police uniforms that aren't blue? _____

241.How surprised would you be to find school uniforms that aren't blue? _____

242.How surprised would you be to find a building that isn't large? _____

243.How surprised would you be to find a universe that isn't large? _____

244.How surprised would you be to find an elephant that isn't large? _____

245.How surprised would you be to find a bear that isn't large? _____

246.How surprised would you be to find a wooly mammoth that isn't large? _____

247.How surprised would you be to find a warehouse that isn't large? _____

248.How surprised would you be to find an ocean that isn't large? _____

249.How surprised would you be to find office buildings that aren't large? _____

250.How surprised would you be to find a sun that isn't large? _____

251.How surprised would you be to find a moon that isn't large? _____

252.How surprised would you be to find mountains that aren't large? _____

253.How surprised would you be to find rainbows that aren't large? _____

254.How surprised would you be to find seas that aren't large? _____

255.How surprised would you be to find a forest that isn't large? _____

256.How surprised would you be to find continents that aren't large? _____

257.How surprised would you be to find cities that aren't large? _____

258.How surprised would you be to find a planet that isn't large? _____

259.How surprised would you be to find a galaxy that isn't large? _____

260.How surprised would you be to find a solar system that isn't large? _____

261.How surprised would you be to find a whale that isn't large? _____

262.How surprised would you be to find a giraffe that isn't large? _____

263.How surprised would you be to find granola that isn't crunchy? _____

264.How surprised would you be to find candy that isn't crunchy? _____

265.How surprised would you be to find nuts that aren't crunchy? _____

266.How surprised would you be to find pretzels that aren't crunchy? _____

267.How surprised would you be to find crackers that aren't crunchy? _____

268.How surprised would you be to find chips that aren't crunchy? _____

269.How surprised would you be to find celery that isn't crunchy? _____

270.How surprised would you be to find carrots that aren't crunchy? _____

271.How surprised would you be to find rice krispies that aren't crunchy? _____

272.How surprised would you be to find apples that aren't crunchy? _____

273.How surprised would you be to find a man that doesn't walk? _____

274.How surprised would you be to find a dog that doesn't walk? _____

275.How surprised would you be to find a cat that doesn't walk? _____

276.How surprised would you be to find an animal that doesn't walk? _____

277.How surprised would you be to find an elephant that doesn't walk? _____

278.How surprised would you be to find birds that don't walk? _____

279.How surprised would you be to find insects that don't walk? _____

280.How surprised would you be to find a horse that doesn't walk? _____

281.How surprised would you be to find a cow that doesn't walk? _____

282.How surprised would you be to find a sheep that doesn't walk? _____

283.How surprised would you be to find a donkey that doesn't walk? _____

284.How surprised would you be to find a camel that doesn't walk? _____

285.How surprised would you be to find a robot that doesn't walk? _____

286.How surprised would you be to find a bird that can't fly? _____

287.How surprised would you be to find an airplane that can't fly? _____

288.How surprised would you be to find a rocket that can't fly? _____

289.How surprised would you be to find insects that can't fly? _____

290.How surprised would you be to find kites that can't fly? _____

291.How surprised would you be to find hang gliders that can't fly? _____

292.How surprised would you be to find a bee that can't fly? _____

293.How surprised would you be to find a butterfly that can't fly? _____

294.How surprised would you be to find fly saucers that can't fly? _____

295.How surprised would you be to find a fly that can't fly? _____

296.How surprised would you be to find a space shuttle that can't fly? _____

297.How surprised would you be to find a helicopter that can't fly

298.How surprised would you be to find an eagle that can't fly? _____

299.How surprised would you be to find a hawk that can't fly? _____

300.How surprised would you be to find a sparrow that can't fly? _____

301.How surprised would you be to find a robin that can't fly? _____

302.How surprised would you be to find a jet that can't fly? _____

303.How surprised would you be to find a Frisbee that can't fly? _____

304.How surprised would you be to find a cardinal that isn't red? _____

305.How surprised would you be to find lips that aren't red? _____

306.How surprised would you be to find strawberries that aren't red? _____

307.How surprised would you be to find raspberries that aren't red? _____

308.How surprised would you be to find berries that aren't red? _____

309.How surprised would you be to find a watermelon that isn't red? _____

310.How surprised would you be to find an apple that isn't red? _____

311.How surprised would you be to find a tomato that isn't red? _____

312.How surprised would you be to find blood that isn't red? _____

313.How surprised would you be to find roses that aren't red? _____

314.How surprised would you be to find stop signs that aren't red? _____

315.How surprised would you be to find cherries that aren't red? _____

316.How surprised would you be to find hearts that aren't red? _____

317.How surprised would you be to find fire engines that aren't red? _____

318.How surprised would you be to find peppers that aren't red? _____

319.How surprised would you be to find cardinals that aren't red? _____

320.How surprised would you be to find people that don't swim? _____

321.How surprised would you be to find a fish that doesn't swim? _____

322.How surprised would you be to find sharks that don't swim? _____

323.How surprised would you be to find a turtle that doesn't swim? _____

324.How surprised would you be to find eels that don't swim? _____

325.How surprised would you be to find ducks that don't swim? _____

326.How surprised would you be to find swans that don't swim? _____

327.How surprised would you be to find a dolphin that doesn't swim? _____

328.How surprised would you be to find a whale that doesn't swim? _____

329.How surprised would you be to find a penguin that doesn't swim? _____

330.How surprised would you be to find an animal that doesn't have a tail? _____

331.How surprised would you be to find a donkey that doesn't have a tail? _____

332.How surprised would you be to find a horse that doesn't have a tail? _____

333.How surprised would you be to find a bird that doesn't have a tail? _____

334.How surprised would you be to find a whale that doesn't have a tail? _____

335.How surprised would you be to find a cat that doesn't have a tail? _____

336.How surprised would you be to find an elephant that doesn't have a tail? _____

337.How surprised would you be to find a rabbit that doesn't have a tail? _____

338.How surprised would you be to find a deer that doesn't have a tail? _____

339.How surprised would you be to find a rat that doesn't have a tail? _____

340.How surprised would you be to find a mouse that doesn't have a tail? _____

341.How surprised would you be to find a dog that doesn't have a tail? _____

342.How surprised would you be to find a lizard that doesn't have a tail? _____

343.How surprised would you be to find a lion that doesn't have a tail? _____

344.How surprised would you be to find a pig that doesn't have a tail? _____

345.How surprised would you be to find a cow that doesn't have a tail? _____

346.How surprised would you be to find a kangaroo that doesn't have a tail? _____

347.How surprised would you be to find a monkey that doesn't have a tail? _____

348.How surprised would you be to find a fox that doesn't have a tail? _____

349.How surprised would you be to find a kite that doesn't have a tail? _____

350.How surprised would you be to find a human that isn't alive? _____

351.How surprised would you be to find an animal that isn't alive? _____

352.How surprised would you be to find a plant that isn't alive? _____

353.How surprised would you be to find a frog that isn't alive? _____

354.How surprised would you be to find a bug that isn't alive? _____

355.How surprised would you be to find a rabbit that isn't alive? _____

356.How surprised would you be to find a worm that isn't alive? _____

357.How surprised would you be to find a bear that isn't alive? _____

358.How surprised would you be to find a dog that isn't alive? _____

359.How surprised would you be to find a cat that isn't alive? _____

360.How surprised would you be to find a fish that isn't alive? _____

361.How surprised would you be to find a horse that isn't alive? _____

362.How surprised would you be to find an ant that isn't alive? _____

363.How surprised would you be to find a fly that isn't alive? _____

364.How surprised would you be to find grass that isn't alive? _____

365.How surprised would you be to find a flower that isn't alive? _____

366.How surprised would you be to find an organism that isn't alive? _____

367.How surprised would you be to find bacteria that aren't alive? _____

368.How surprised would you be to find a mammal that isn't alive? _____

369.How surprised would you be to find fungus that isn't alive? _____

370.How surprised would you be to find a bird that isn't alive? _____

371.How surprised would you be to find a virus that isn't alive? _____

372.How surprised would you be to find a food that isn't edible? _____

373.How surprised would you be to find a candy that isn't edible? _____

374.How surprised would you be to find a vegetable that isn't edible? _____

375.How surprised would you be to find a fruit that isn't edible? _____

376.How surprised would you be to find meat that isn't edible? _____

377.How surprised would you be to find cereal that isn't edible? _____

378.How surprised would you be to find a cookie that isn't edible? _____

379.How surprised would you be to find a chicken that isn't edible? _____

380.How surprised would you be to find a hamburger that isn't edible? _____

381.How surprised would you be to find a banana that isn't edible? _____

382.How surprised would you be to find an apple that isn't edible? _____

383.How surprised would you be to find an orange that isn't edible? _____

384.How surprised would you be to find a carrot that isn't edible? _____

385.How surprised would you be to find rice that isn't edible? _____

386.How surprised would you be to find a noodle that isn't edible? _____

387.How surprised would you be to find an ice cube that isn't edible? _____

388.How surprised would you be to find a fish that isn't edible? _____

389.How surprised would you be to find cheese that isn't edible? _____

390.How surprised would you be to find a pocketbook that isn't leather? _____

391.How surprised would you be to find a coat that isn't leather? _____

392.How surprised would you be to find a saddle that isn't leather? _____

393.How surprised would you be to find a boot that isn't leather? _____

394.How surprised would you be to find a watchband that isn't leather? _____

395.How surprised would you be to find a belt that isn't leather? _____

Set B

396.How surprised would you be to find a couch that isn't leather? _____

397.How surprised would you be to find a car interior that isn't leather? _____

398.How surprised would you be to find a shoe that isn't leather? _____

399.How surprised would you be to find a wallet that isn't leather? _____

400.How surprised would you be to find a briefcase that isn't leather? _____

401.How surprised would you be to find a cup that doesn't have a handle? _____

402.How surprised would you be to find a mug that doesn't have a handle? _____

403.How surprised would you be to find a pot that doesn't have a handle? _____

404.How surprised would you be to find a pocketbook that doesn't have a handle? _____

405.How surprised would you be to find a basket that doesn't have a handle? _____

406.How surprised would you be to find a car door that doesn't have a handle? _____

407.How surprised would you be to find a lunch box that doesn't have a handle? _____

408.How surprised would you be to find a toolbox that doesn't have a handle? _____

409.How surprised would you be to find a briefcase that doesn't have a handle? _____

410.How surprised would you be to find an umbrella that doesn't have a handle? _____

411.How surprised would you be to find a shopping bag that doesn't have a handle? _____

412.How surprised would you be to find a pan that doesn't have a handle? _____

413.How surprised would you be to find glue that isn't sticky? _____

414.How surprised would you be to find tape that isn't sticky? _____

415.How surprised would you be to find bubble gum that isn't sticky? _____

416.How surprised would you be to find tar that isn't sticky? _____

417.How surprised would you be to find honey that isn't sticky? _____

418.How surprised would you be to find syrup that isn't sticky? _____

419.How surprised would you be to find molasses that isn't sticky? _____

420.How surprised would you be to find candy that isn't sticky? _____

421.How surprised would you be to find a lollipop that isn't sticky? _____

422.How surprised would you be to find a scotch tape that isn't sticky? _____

423.How surprised would you be to find a packing tape that isn't sticky? _____

424.How surprised would you be to find adhesive that isn't sticky? _____

425.How surprised would you be to find a band-aid that isn't sticky? _____

426.How surprised would you be to find a rubber cement that isn't sticky? _____

427.How surprised would you be to find a sticker that isn't sticky? _____

428.How surprised would you be to find jelly that isn't sticky? _____

429.How surprised would you be to find jam that isn't sticky? _____

430.How surprised would you be to find peanut butter that isn't sticky? _____

431.How surprised would you be to find garbage that isn't smelly? _____

432.How surprised would you be to find manure that isn't smelly? _____

433.How surprised would you be to find a skunk that isn't smelly? _____

434.How surprised would you be to find a foot that isn't smelly? _____

435.How surprised would you be to find ammonia that isn't smelly? _____

436.How surprised would you be to find bleach that isn't smelly? _____

437.How surprised would you be to find fish that isn't smelly? _____

438.How surprised would you be to find a rotten egg that isn't smelly? _____

439.How surprised would you be to find a gym sock that isn't smelly? _____

440.How surprised would you be to find a public bathroom that isn't smelly? _____

441.How surprised would you be to find spoiled milk that isn't smelly? _____

442.How surprised would you be to find garlic that isn't smelly? _____

443.How surprised would you be to find an onion that isn't smelly? _____

444.How surprised would you be to find sulfur that isn't smelly? _____

445.How surprised would you be to find a body order that isn't smelly? _____

446.How surprised would you be to find a halitosis that isn't smelly? _____

447.How surprised would you be to find water that isn't liquid? _____

448.How surprised would you be to find juice that isn't liquid? _____

449.How surprised would you be to find soda that isn't liquid? _____

450.How surprised would you be to find beer that isn't liquid? _____

451.How surprised would you be to find wine that isn't liquid? _____

452.How surprised would you be to find alcohol that isn't liquid? _____

453.How surprised would you be to find blood that isn't liquid? _____

454.How surprised would you be to find rain that isn't liquid? _____

455.How surprised would you be to find milk that isn't liquid? _____

456.How surprised would you be to find oil that isn't liquid? _____

457.How surprised would you be to find a tear that isn't liquid? _____

458.How surprised would you be to find a soup that isn't liquid? _____

459.How surprised would you be to find a pool that isn't liquid? _____

460.How surprised would you be to find an ocean that isn't liquid? _____

461.How surprised would you be to find a sun that isn't hot? _____

462.How surprised would you be to find a fire that isn't hot? _____

463.How surprised would you be to find an oven that isn't hot? _____

464.How surprised would you be to find a stovetop that isn't hot? _____

465.How surprised would you be to find a candle that isn't hot? _____

466.How surprised would you be to find a fireplace that isn't hot? _____

467.How surprised would you be to find a heater that isn't hot? _____

468.How surprised would you be to find a summer that isn't hot? _____

469.How surprised would you be to find cayenne pepper that isn't hot? _____

470.How surprised would you be to find coffee that isn't hot? _____

471.How surprised would you be to find tea that isn't hot? _____

472.How surprised would you be to find cinnamon that isn't hot? _____

473.How surprised would you be to find a jalapeno that isn't hot? _____

474.How surprised would you be to find a chipolte pepper that isn't hot? _____

475.How surprised would you be to find salsa that isn't hot? _____

476.How surprised would you be to find a toaster that isn't hot? _____

477.How surprised would you be to find boiling water that isn't hot? _____

478.How surprised would you be to find steam that isn't hot? _____

479.How surprised would you be to find a chili pepper that isn't hot? _____

480.How surprised would you be to find a candy that isn't sweet? _____

481.How surprised would you be to find a fruit that isn't sweet? _____

482.How surprised would you be to find a cake that isn't sweet? _____

483.How surprised would you be to find a cookie that isn't sweet? _____

484.How surprised would you be to find a pie that isn't sweet? _____

485.How surprised would you be to find ice cream that isn't sweet? _____

486.How surprised would you be to find a Popsicle that isn't sweet? _____

487.How surprised would you be to find juice that isn't sweet? _____

488.How surprised would you be to find a soda that isn't sweet? _____

489.How surprised would you be to find honey that isn't sweet? _____

490.How surprised would you be to find chocolate that isn't sweet? _____

491.How surprised would you be to find an apple that isn't sweet? _____

492.How surprised would you be to find caramel that isn't sweet? _____

493.How surprised would you be to find a cherry that isn't sweet? _____

494.How surprised would you be to find a pastry that isn't sweet? _____

495.How surprised would you be to find a cotton candy that isn't sweet? _____

496.How surprised would you be to find lemonade that isn't sweet? _____

497.How surprised would you be to find a lollipop that isn't sweet? _____

498.How surprised would you be to find a gumdrop that isn't sweet? _____

499.How surprised would you be to find a dessert that isn't sweet? _____

500.How surprised would you be to find a knife that isn't sharp? _____

501.How surprised would you be to find a sword that isn't sharp? _____

502.How surprised would you be to find a thumbtack that isn't sharp? _____

503.How surprised would you be to find a razor that isn't sharp? _____

504.How surprised would you be to find scissors that aren't sharp? _____

505.How surprised would you be to find a blade that isn't sharp? _____

506.How surprised would you be to find a needle that isn't sharp? _____

507.How surprised would you be to find a worm that isn't slimy? _____

508.How surprised would you be to find mucus that isn't slimy? _____

509.How surprised would you be to find a snail that isn't slimy? _____

510.How surprised would you be to find a leech that isn't slimy? _____

511.How surprised would you be to find seaweed that isn't slimy? _____

512.How surprised would you be to find a jellyfish that isn't slimy? _____

513.How surprised would you be to find an oyster that isn't slimy? _____

514.How surprised would you be to find a lotion that isn't slimy? _____

515.How surprised would you be to find oil that isn't slimy? _____

516.How surprised would you be to find a slug that isn't slimy? _____

517.How surprised would you be to find an airplane that isn't noisy? _____

518.How surprised would you be to find traffic that isn't noisy? _____

519.How surprised would you be to find a drum that isn't noisy? _____

520.How surprised would you be to find a siren that isn't noisy? _____

521.How surprised would you be to find a horn that isn't noisy? _____

522.How surprised would you be to find a cymbal that isn't noisy? _____

523.How surprised would you be to find a party that isn't noisy? _____

524.How surprised would you be to find a concert that isn't noisy? _____

525.How surprised would you be to find a club that isn't noisy? _____

526.How surprised would you be to find a drill that isn't noisy? _____

527.How surprised would you be to find a jackhammer that isn't noisy? _____

528.How surprised would you be to find a crying baby that isn't noisy? _____

529.How surprised would you be to find construction that isn't noisy? _____

530.How surprised would you be to find fireworks that aren't noisy? _____

531.How surprised would you be to find a lemon that isn't sour? _____

532.How surprised would you be to find a lime that isn't sour? _____

533.How surprised would you be to find vinegar that isn't sour? _____

534.How surprised would you be to find bad milk that isn't sour? _____

535.How surprised would you be to find a green apple that isn't sour? _____

536.How surprised would you be to find a rabbit that doesn't hop? _____

537.How surprised would you be to find a kangaroo that doesn't hop? _____

538.How surprised would you be to find a grasshopper that doesn't hop? _____

539.How surprised would you be to find a frog that doesn't hop? _____

540.How surprised would you be to find a toad that doesn't hop? _____

541.How surprised would you be to find a cricket that doesn't hop? _____

542.How surprised would you be to find a Tigger that doesn't hop? _____

543.How surprised would you be to find a flea that doesn't hop? _____

544.How surprised would you be to find a peanut that doesn't have a shell? _____

545.How surprised would you be to find a walnut that doesn't have a shell? _____

546.How surprised would you be to find a pecan that doesn't have a shell? _____

547.How surprised would you be to find a chestnut that doesn't have a shell? _____

548.How surprised would you be to find a mollusk that doesn't have a shell? _____

549.How surprised would you be to find a clam that doesn't have a shell? _____

550.How surprised would you be to find a snail that doesn't have a shell? _____

551.How surprised would you be to find a crab that doesn't have a shell? _____

552.How surprised would you be to find a shrimp that doesn't have a shell? _____

553.How surprised would you be to find a scallop that doesn't have a shell? _____

554.How surprised would you be to find a lobster that doesn't have a shell? _____

555.How surprised would you be to find a seed that doesn't have a shell? _____

556.How surprised would you be to find a cashew that doesn't have a shell? _____

557.How surprised would you be to find a pistachio that doesn't have a shell? _____

558.How surprised would you be to find a turtle that doesn't have a shell? _____

559.How surprised would you be to find an oyster that doesn't have a shell? _____

560.How surprised would you be to find a hermit crab that doesn't have a shell? _____

561.How surprised would you be to find an M&M that doesn't have a shell? _____

562.How surprised would you be to find a sun that isn't yellow? _____

563.How surprised would you be to find a lemon that isn't yellow? _____

564.How surprised would you be to find a highlighter that isn't yellow? _____

565.How surprised would you be to find lemonade that isn't yellow? _____

566.How surprised would you be to find a banana that isn't yellow? _____

567.How surprised would you be to find a tennis ball that isn't yellow? _____

568.How surprised would you be to find corn that isn't yellow? _____

569.How surprised would you be to find a yield sign that isn't yellow? _____

570.How surprised would you be to find a school bus that isn't yellow? _____

571.How surprised would you be to find a bee that isn't yellow? _____

572.How surprised would you be to find cheese that isn't yellow? _____

573.How surprised would you be to find a taxi that isn't yellow? _____

574.How surprised would you be to find a big bird that isn't yellow? _____

575.How surprised would you be to find a legal pad that isn't yellow? _____

576.How surprised would you be to find a pillow that isn't soft? _____

577.How surprised would you be to find cotton that isn't soft? _____

578.How surprised would you be to find skin that isn't soft? _____

579.How surprised would you be to find fur that isn't soft? _____

580.How surprised would you be to find a kitten that isn't soft? _____

581.How surprised would you be to find a puppy that isn't soft? _____

582.How surprised would you be to find silk that isn't soft? _____

583.How surprised would you be to find cashmere that isn't soft? _____

584.How surprised would you be to find a rabbit that isn't soft? _____

585.How surprised would you be to find a baby that isn't soft? _____

586.How surprised would you be to find a rose petal that isn't soft? _____

587.How surprised would you be to find satin that isn't soft? _____

588.How surprised would you be to find velvet that isn't soft? _____

589.How surprised would you be to find a feather that isn't soft? _____

590.How surprised would you be to find a fruit that doesn't have seeds? _____

591.How surprised would you be to find a vegetable that doesn't have seeds? _____

592.How surprised would you be to find a tree that doesn't have seeds? _____

593.How surprised would you be to find an apple that doesn't have seeds? _____

594.How surprised would you be to find a grape that doesn't have seeds? _____

595.How surprised would you be to find a tomato that doesn't have seeds? _____

596.How surprised would you be to find a pumpkin that doesn't have seeds? _____

597.How surprised would you be to find a sunflower that doesn't have seeds? _____

598.How surprised would you be to find an orange that doesn't have seeds? _____

599.How surprised would you be to find a grapefruit that doesn't have seeds? _____

600.How surprised would you be to find a watermelon that doesn't have seeds? _____

601.How surprised would you be to find a cucumber that doesn't have seeds? _____

602.How surprised would you be to find snow that isn't cold? _____

603.How surprised would you be to find a freezer that isn't cold? _____

604.How surprised would you be to find a cellar that isn't cold? _____

605.How surprised would you be to find Antarctica that isn't cold? _____

606.How surprised would you be to find ice cream that isn't cold? _____

607.How surprised would you be to find an ice cube that isn't cold? _____

608.How surprised would you be to find a Popsicle that isn't cold? _____

609.How surprised would you be to find a winter that isn't cold? _____

610.How surprised would you be to find a blizzard that isn't cold? _____

611.How surprised would you be to find a refrigerator that isn't cold? _____

612.How surprised would you be to find air-conditioning that isn't cold? _____

613.How surprised would you be to find a swimming-pool that isn't cold? _____

614.How surprised would you be to find a glacier that isn't cold? _____

615.How surprised would you be to find a frozen-food that isn't cold? _____

616.How surprised would you be to find an icicle that isn't cold? _____

617.How surprised would you be to find an animal that doesn't have skin? _____

618.How surprised would you be to find a person that doesn't have skin? _____

619.How surprised would you be to find a grape that doesn't have skin? _____

620.How surprised would you be to find chicken that doesn't have skin? _____

621.How surprised would you be to find a cow that doesn't have skin? _____

622.How surprised would you be to find a dog that doesn't have skin? _____

623.How surprised would you be to find a rabbit that doesn't have skin? _____

624.How surprised would you be to find a bird that doesn't have skin? _____

625.How surprised would you be to find a monkey that doesn't have skin? _____

626.How surprised would you be to find an onion that doesn't have skin? _____

627.How surprised would you be to find garlic that doesn't have skin? _____

628.How surprised would you be to find an apple that doesn't have skin? _____

629.How surprised would you be to find a tomato that doesn't have skin? _____

630.How surprised would you be to find a mammal that doesn't have skin? _____

631.How surprised would you be to find a reptile that doesn't have skin? _____

632.How surprised would you be to find a snake that doesn't have skin? _____

633.How surprised would you be to find an alligator that doesn't have skin? _____

634.How surprised would you be to find a fruit that doesn't have skin? _____

635.How surprised would you be to find a vegetable that doesn't have skin? _____

636.How surprised would you be to find a mirror that isn't reflective? _____

637.How surprised would you be to find glass that isn't reflective? _____

638.How surprised would you be to find aluminum that isn't reflective? _____

639.How surprised would you be to find chrome that isn't reflective? _____

640.How surprised would you be to find steel that isn't reflective? _____

641.How surprised would you be to find a potato chip that isn't salty? _____

642.How surprised would you be to find a pretzel that isn't salty? _____

643.How surprised would you be to find nacho chip that isn't salty? _____

644.How surprised would you be to find soy sauce that isn't salty? _____

645.How surprised would you be to find sea water that isn't salty? _____

646.How surprised would you be to find a margarita that isn't salty? _____

647.How surprised would you be to find a tear that isn't salty? _____

648.How surprised would you be to find a food that isn't salty? _____

649.How surprised would you be to find sweat that isn't salty? _____

650.How surprised would you be to find popcorn that isn't salty? _____

651.How surprised would you be to find a peanut that isn't salty? _____

652.How surprised would you be to find a nut that isn't salty? _____

653.How surprised would you be to find a cracker that isn't salty? _____

654.How surprised would you be to find a french fry that isn't salty? _____

655.How surprised would you be to find a saltine that isn't salty? _____

656.How surprised would you be to find a flower that doesn't have leaves? _____

657.How surprised would you be to find a bush that doesn't have leaves? _____

658.How surprised would you be to find a vine that doesn't have leaves? _____

659.How surprised would you be to find a plant that doesn't have leaves? _____

660.How surprised would you be to find a forest that doesn't have leaves? _____

661.How surprised would you be to find an oak that doesn't have leaves? _____

662.How surprised would you be to find an herb that doesn't have leaves? _____

663.How surprised would you be to find a weed that doesn't have leaves? _____

664.How surprised would you be to find lettuce that doesn't have leaves? _____

665.How surprised would you be to find spinach that doesn't have leaves? _____

666.How surprised would you be to find a bear that isn't ferocious? _____

667.How surprised would you be to find a lion that isn't ferocious? _____

668.How surprised would you be to find a tiger that isn't ferocious? _____

669.How surprised would you be to find an alligator that isn't ferocious? _____

670.How surprised would you be to find a crocodile that isn't ferocious? _____

671.How surprised would you be to find a wild animal that isn't ferocious? _____

672.How surprised would you be to find glass that isn't transparent? _____

673.How surprised would you be to find Plexiglas that isn't transparent? _____

674.How surprised would you be to find plastic that isn't transparent? _____

675.How surprised would you be to find a soda bottle that isn't transparent? _____

676.How surprised would you be to find air that isn't transparent? _____

677.How surprised would you be to find water that isn't transparent? _____

678.How surprised would you be to find oil that isn't transparent? _____

679.How surprised would you be to find a tear that isn't transparent? _____

680.How surprised would you be to find ice that isn't transparent? _____

681.How surprised would you be to find a yield sign that isn't triangular? _____

682.How surprised would you be to find a piece of pie that isn't triangular? _____

683.How surprised would you be to find a sandwich that isn't triangular? _____

684.How surprised would you be to find a slice of pizza that isn't triangular? _____

685.How surprised would you be to find an airplane that isn't dangerous? _____

686.How surprised would you be to find a wet road that isn't dangerous? _____

687.How surprised would you be to find a fire that isn't dangerous? _____

688.How surprised would you be to find an earthquake that isn't dangerous? _____

689.How surprised would you be to find a hurricane that isn't dangerous? _____

690.How surprised would you be to find a tornado that isn't dangerous? _____

691.How surprised would you be to find a robber that isn't dangerous? _____

692.How surprised would you be to find a murderer that isn't dangerous? _____

693.How surprised would you be to find a snake that isn't dangerous? _____

694.How surprised would you be to find a cancer that isn't dangerous? _____

695.How surprised would you be to find a stroke that isn't dangerous? _____

696.How surprised would you be to find a wild animal that isn't dangerous? _____

697.How surprised would you be to find a war that isn't dangerous? _____

698.How surprised would you be to find a lion that isn't dangerous? _____

699.How surprised would you be to find a gun that isn't dangerous? _____

700.How surprised would you be to find a knife that isn't dangerous? _____

701.How surprised would you be to find drag racing isn't dangerous? _____

702.How surprised would you be to find scuba diving that isn't dangerous? _____

703.How surprised would you be to find a wheel that doesn't roll? _____

704.How surprised would you be to find a ball that doesn't roll? _____

705.How surprised would you be to find a log that doesn't roll? _____

706.How surprised would you be to find a tire that doesn't roll? _____

707.How surprised would you be to find a snowball that doesn't roll? _____

708.How surprised would you be to find a penny that doesn't roll? _____

709.How surprised would you be to find a cat that isn't furry? _____

710.How surprised would you be to find a dog that isn't furry? _____

711.How surprised would you be to find a hamster that isn't furry? _____

712.How surprised would you be to find a gerbil that isn't furry? _____

713.How surprised would you be to find a squirrel that isn't furry? _____

714.How surprised would you be to find a rabbit that isn't furry? _____

715.How surprised would you be to find an animal that isn't furry? _____

716.How surprised would you be to find a tree that isn't tall? _____

717.How surprised would you be to find a building that isn't tall? _____

718.How surprised would you be to find a ladder that isn't tall? _____

719.How surprised would you be to find a flagpole that isn't tall? _____

720.How surprised would you be to find a tower that isn't tall? _____

721.How surprised would you be to find a streetlight that isn't tall? _____

722.How surprised would you be to find a basketball player that isn't tall? _____

723.How surprised would you be to find a telephone pole that isn't tall? _____

724.How surprised would you be to find a mountain that isn't tall? _____

725.How surprised would you be to find leaves that aren't green? _____

726.How surprised would you be to find grass that isn't green? _____

727.How surprised would you be to find a tree that isn't green? _____

728.How surprised would you be to find a vegetable that isn't green? _____

729.How surprised would you be to find broccoli that isn't green? _____

730.How surprised would you be to find a pea that isn't green? _____

731.How surprised would you be to find money that isn't green? _____

732.How surprised would you be to find a plant that isn't green? _____

733.How surprised would you be to find an apple that isn't green? _____

734.How surprised would you be to find a traffic-light that isn't green? _____

735.How surprised would you be to find a frog that isn't green? _____

736.How surprised would you be to find a lizard that isn't green? _____

737.How surprised would you be to find moss that isn't green? _____

738.How surprised would you be to find a pear that isn't green? _____

739.How surprised would you be to find an herb that isn't green? _____

740.How surprised would you be to find artificial turf that isn't green? _____

741.How surprised would you be to find an emerald that isn't green? _____

742.How surprised would you be to find a shamrock that isn't green? _____

743.How surprised would you be to find Mexican food that isn't spicy? _____

744.How surprised would you be to find Indian food that isn't spicy? _____

745.How surprised would you be to find a buffalo wing that isn't spicy? _____

746.How surprised would you be to find Cajun food that isn't spicy? _____

747.How surprised would you be to find construction work that isn't loud? _____

748.How surprised would you be to find yelling that isn't loud? _____

749.How surprised would you be to find screaming that isn't loud? _____

750.How surprised would you be to find crying that isn't loud? _____

751.How surprised would you be to find a horn that isn't loud? _____

752.How surprised would you be to find traffic that isn't loud? _____

753.How surprised would you be to find an earthquake that isn't loud? _____

754.How surprised would you be to find an accident that isn't loud? _____

755.How surprised would you be to find a motorcycle that isn't loud? _____

756.How surprised would you be to find a jackhammer that isn't loud? _____

757.How surprised would you be to find an airplane that isn't loud? _____

758.How surprised would you be to find a concert that isn't loud? _____

759.How surprised would you be to find an avalanche that isn't loud? _____

760.How surprised would you be to find an explosion that isn't loud? _____

761.How surprised would you be to find gun-fire that isn't loud? _____

762.How surprised would you be to find a siren that isn't loud? _____

763.How surprised would you be to find a firework that isn't loud? _____

764.How surprised would you be to find a baby crying that isn't loud? _____

765.How surprised would you be to find stomping that isn't loud? _____

766.How surprised would you be to find thunder that isn't loud? _____

767.How surprised would you be to find a rocket that isn't loud? _____

768.How surprised would you be to find a first class ticket that isn't extravagant? _____

769.How surprised would you be to find jewelry that isn't extravagant? _____

770.How surprised would you be to find a diamond that isn't extravagant? _____

771.How surprised would you be to find a wedding that isn't extravagant? _____

772.How surprised would you be to find a Broadway play that isn't extravagant? _____

773.How surprised would you be to find a palace that isn't extravagant? _____

774.How surprised would you be to find a yacht that isn't extravagant? _____

775.How surprised would you be to find a ball gown that isn't extravagant? _____

776.How surprised would you be to find a wedding cake that isn't extravagant? _____

777.How surprised would you be to find a fancy wine that isn't extravagant? _____

778.How surprised would you be to find a Dalmatian that isn't spotted? _____

779.How surprised would you be to find a cow that isn't spotted? _____

780.How surprised would you be to find a cheetah that isn't spotted? _____

781.How surprised would you be to find a leopard that isn't spotted? _____

782.How surprised would you be to find a winter that isn't freezing? _____

783.How surprised would you be to find a freezer that isn't freezing? _____

784.How surprised would you be to find air conditioning that isn't freezing? _____

785.How surprised would you be to find ice that isn't freezing? _____

786.How surprised would you be to find snow that isn't freezing? _____

787.How surprised would you be to find ice cream that isn't freezing? _____

788.How surprised would you be to find that the North Pole isn't freezing? _____

789.How surprised would you be to find a Popsicle that isn't freezing? _____

790.How surprised would you be to find sleet that isn't freezing? _____

APPENDIX C

COMPLETE SET OF SALIENCE QUESTIONS-EXPERIMENT 1

Set A

1. How much does the property scary stand out in your thoughts about snakes? _____
2. How much does the property scary stand out in your thoughts about monsters? _____
3. How much does the property scary stand out in your thoughts about vampires? _____
4. How much does the property scary stand out in your thoughts about bats? _____
5. How much does the property scary stand out in your thoughts about spiders? _____
6. How much does the property scary stand out in your thoughts about haunted houses? _____
7. How much does the property scary stand out in your thoughts about ghosts? _____
8. How much does the property scary stand out in your thoughts about witches? _____
9. How much does the property scary stand out in your thoughts about nightmares? _____
10. How much does the property fast stand out in your thoughts about cars? _____
11. How much does the property fast stand out in your thoughts about cheetahs? _____
12. How much does the property fast stand out in your thoughts about planes? _____
13. How much does the property fast stand out in your thoughts about milliseconds? _____
14. How much does the property fast stand out in your thoughts about leopards? _____
15. How much does the property fast stand out in your thoughts about roadrunners? _____
16. How much does the property fast stand out in your thoughts about sports cars? _____
17. How much does the property fast stand out in your thoughts about racecars? _____
18. How much does the property fast stand out in your thoughts about track athletes? _____
19. How much does the property fast stand out in your thoughts about horse races? _____
20. How much does the property fast stand out in your thoughts about concords? _____
21. How much does the property fast stand out in your thoughts about trains? _____
22. How much does the property fast stand out in your thoughts about speedboats? _____
23. How much does the property fast stand out in your thoughts about light? _____
24. How much does the property poisonous stand out in your thoughts about cyanide? _____
25. How much does the property poisonous stand out in your thoughts about lead? _____
26. How much does the property poisonous stand out in your thoughts about chemicals? _____
27. How much does the property poisonous stand out in your thoughts about venom? _____
28. How much does the property poisonous stand out in your thoughts about strychnine? _____
29. How much does the property poisonous stand out in your thoughts about ammonia? _____
30. How much does the property poisonous stand out in your thoughts about bleach? _____

31. How much does the property poisonous stand out in your thoughts about roach killers?

_____

32. How much does the property poisonous stand out in your thoughts about weed killer?

_____

33. How much does the property poisonous stand out in your thoughts about spiders? _____
34. How much does the property poisonous stand out in your thoughts about gas? _____
35. How much does the property poisonous stand out in your thoughts about household cleaners?

_____

36. How much does the property poisonous stand out in your thoughts about berries? _____
37. How much does the property poisonous stand out in your thoughts about hemlock? _____
38. How much does the property round stand out in your thoughts about clock faces? _____
39. How much does the property round stand out in your thoughts about traffic circles? _____
40. How much does the property round stand out in your thoughts about rings? _____
41. How much does the property round stand out in your thoughts about wheels? _____
42. How much does the property round stand out in your thoughts about glasses? _____
43. How much does the property round stand out in your thoughts about domes? _____
44. How much does the property round stand out in your thoughts about planets? _____
45. How much does the property round stand out in your thoughts about moons? _____
46. How much does the property round stand out in your thoughts about CD's? _____
47. How much does the property round stand out in your thoughts about records? _____
48. How much does the property round stand out in your thoughts about eyes? _____
49. How much does the property round stand out in your thoughts about balls? _____
50. How much does the property round stand out in your thoughts about lollipops? _____
51. How much does the property round stand out in your thoughts about oranges? _____
52. How much does the property round stand out in your thoughts about earth? _____
53. How much does the property round stand out in your thoughts about suns? _____
54. How much does the property round stand out in your thoughts about cookies? _____
55. How much does the property clear stand out in your thoughts about glass? _____
56. How much does the property clear stand out in your thoughts about water? _____
57. How much does the property clear stand out in your thoughts about tears? _____
58. How much does the property clear stand out in your thoughts about plastic? _____
59. How much does the property clear stand out in your thoughts about air? _____
60. How much does the property clear stand out in your thoughts about cellophane? _____
61. How much does the property clear stand out in your thoughts about Plexiglas? _____
62. How much does the property clear stand out in your thoughts about windows? _____
63. How much does the property clear stand out in your thoughts about eyeglasses? _____
64. How much does the property clear stand out in your thoughts about saran wrap? _____

65. How much does the property clear stand out in your thoughts about broth? _____
66. How much does the property clear stand out in your thoughts about contacts? _____
67. How much does the property grainy stand out in your thoughts about bread? _____
68. How much does the property grainy stand out in your thoughts about wood? _____
69. How much does the property grainy stand out in your thoughts about cereal? _____
70. How much does the property grainy stand out in your thoughts about sand? _____
71. How much does the property grainy stand out in your thoughts about dirt? _____
72. How much does the property grainy stand out in your thoughts about grout? _____
73. How much does the property grainy stand out in your thoughts about sandpaper? _____
74. How much does the property grainy stand out in your thoughts about sugar? _____
75. How much does the property wooden stand out in your thoughts about desks? _____
76. How much does the property wooden stand out in your thoughts about chairs? _____
77. How much does the property wooden stand out in your thoughts about beds? _____
78. How much does the property wooden stand out in your thoughts about houses? _____
79. How much does the property wooden stand out in your thoughts about shutters? _____
80. How much does the property wooden stand out in your thoughts about pirate legs? _____
81. How much does the property wooden stand out in your thoughts about doors? _____
82. How much does the property wooden stand out in your thoughts about birdhouses? _____
83. How much does the property wooden stand out in your thoughts about fence posts? _____
84. How much does the property wooden stand out in your thoughts about dressers? _____
85. How much does the property wooden stand out in your thoughts about benches? _____
86. How much does the property wooden stand out in your thoughts about crates? _____
87. How much does the property wooden stand out in your thoughts about trees? _____
88. How much does the property wooden stand out in your thoughts about baseball bats? _____
89. How much does the property wooden stand out in your thoughts about puppets? _____
90. How much does the property wooden stand out in your thoughts about blocks? _____
91. How much does the property wooden stand out in your thoughts about floors? _____
92. How much does the property wooden stand out in your thoughts about cabinets? _____
93. How much does the property wooden stand out in your thoughts about oars? _____
94. How much does the property wooden stand out in your thoughts about log cabins? _____
95. How much does the property wooden stand out in your thoughts about pencils? _____
96. How much does the property wooden stand out in your thoughts about rafts? _____
97. How much does the property has wheels stand out in your thoughts about cars? _____
98. How much does the property has wheels stand out in your thoughts about trucks? _____
99. How much does the property has wheels stand out in your thoughts about bicycles? _____
100. How much does the property has wheels stand out in your thoughts about tricycles? _____

101.How much does the property has wheels stand out in your thoughts about airplanes?

102.How much does the property has wheels stand out in your thoughts about vans?

103.How much does the property has wheels stand out in your thoughts about skateboards?

104.How much does the property has wheels stand out in your thoughts about scooters?

105.How much does the property has wheels stand out in your thoughts about motorcycles?

106.How much does the property has wheels stand out in your thoughts about wheelchairs?

107.How much does the property has wheels stand out in your thoughts about office chairs?

108.How much does the property has wheels stand out in your thoughts about wagons?

109.How much does the property has wheels stand out in your thoughts about wheelbarrows?

110.How much does the property has wheels stand out in your thoughts about trains?

111.How much does the property has wheels stand out in your thoughts about unicycles?

112.How much does the property has wheels stand out in your thoughts about baby carriages?

113.How much does the property has wheels stand out in your thoughts about roller coasters?

114.How much does the property has wheels stand out in your thoughts about go-carts?

115.How much does the property has wheels stand out in your thoughts about buses?

116.How much does the property has wheels stand out in your thoughts about matchbox cars?

117.How much does the property has wheels stand out in your thoughts about roller-skates?

118.How much does the property has wheels stand out in your thoughts about roller blades?

119.How much does the property has wheels stand out in your thoughts about toys?

120.How much does the property rubber stand out in your thoughts about tires?

121.How much does the property rubber stand out in your thoughts about balls?

122.How much does the property rubber stand out in your thoughts about dolls?

123.How much does the property rubber stand out in your thoughts about garden hoses?

124.How much does the property rubber stand out in your thoughts about latex gloves?

125.How much does the property rubber stand out in your thoughts about rain boots?

126. How much does the property rubber stand out in your thoughts about erasers?

127.How much does the property rubber stand out in your thoughts about dish gloves?

128.How much does the property plastic stand out in your thoughts about Tupperware? _____

129.How much does the property plastic stand out in your thoughts about CD cases? _____

130.How much does the property plastic stand out in your thoughts about cups? _____

131.How much does the property plastic stand out in your thoughts about straws? _____

132.How much does the property plastic stand out in your thoughts about shampoo bottles?

_____

133.How much does the property plastic stand out in your thoughts about soda bottles? _____

134.How much does the property plastic stand out in your thoughts about pens? _____

135.How much does the property plastic stand out in your thoughts about shopping bags?

_____

136.How much does the property plastic stand out in your thoughts about cassette tapes? _____

137.How much does the property plastic stand out in your thoughts about milk jugs? _____

138.How much does the property plastic stand out in your thoughts about bottles? _____

139.How much does the property orange stand out in your thoughts about apricots? _____

140.How much does the property orange stand out in your thoughts about carrots? _____

141.How much does the property orange stand out in your thoughts about construction signs?

_____

142.How much does the property orange stand out in your thoughts about oranges? _____

143.How much does the property orange stand out in your thoughts about Sunkist sodas?

_____

144.How much does the property orange stand out in your thoughts about road cones? _____

145.How much does the property orange stand out in your thoughts about tigers? _____

146.How much does the property orange stand out in your thoughts about suns? _____

147.How much does the property orange stand out in your thoughts about pumpkins? _____

148.How much does the property juicy stand out in your thoughts about grapes? _____

149.How much does the property juicy stand out in your thoughts about citrus fruit? _____

150.How much does the property juicy stand out in your thoughts about candy? _____

151.How much does the property juicy stand out in your thoughts about melons? _____

152.How much does the property juicy stand out in your thoughts about oranges? _____

153.How much does the property juicy stand out in your thoughts about strawberries? _____

154.How much does the property juicy stand out in your thoughts about plums? _____

155.How much does the property juicy stand out in your thoughts about steaks? _____

156.How much does the property juicy stand out in your thoughts about pineapples? _____

157.How much does the property juicy stand out in your thoughts about apples? _____

158.How much does the property juicy stand out in your thoughts about peaches? _____

159.How much does the property juicy stand out in your thoughts about grapefruits? _____

160.How much does the property glass stand out in your thoughts about drinking glasses?

_____

161.How much does the property glass stand out in your thoughts about TV screens? _____

162.How much does the property glass stand out in your thoughts about windows? _____

163.How much does the property glass stand out in your thoughts about mirrors? _____

164.How much does the property glass stand out in your thoughts about vases? _____

165.How much does the property glass stand out in your thoughts about bowls? _____

166.How much does the property glass stand out in your thoughts about wine glasses? _____

167.How much does the property glass stand out in your thoughts about greenhouses? _____

168.How much does the property glass stand out in your thoughts about bottles? _____

169.How much does the property glass stand out in your thoughts about cups? _____

170.How much does the property glass stand out in your thoughts about light bulbs? _____

171.How much does the property glass stand out in your thoughts about windshields? _____

172.How much does the property stores things stand out in your thoughts about Tupperware?

_____

173.How much does the property stores things stand out in your thoughts about boxes? _____

174.How much does the property stores things stand out in your thoughts about bags? _____

175.How much does the property stores things stand out in your thoughts about closets? _____

176.How much does the property stores things stand out in your thoughts about crates? _____

177.How much does the property stores things stand out in your thoughts about dressers?

_____

178.How much does the property stores things stand out in your thoughts about cabinets?

_____

179.How much does the property stores things stand out in your thoughts about attics? _____

180.How much does the property stores things stand out in your thoughts about garages? _____

181.How much does the property stores things stand out in your thoughts about trunks? _____

182.How much does the property stores things stand out in your thoughts about drawers?

_____

183.How much does the property stores things stand out in your thoughts about suitcases?

_____

184.How much does the property stores things stand out in your thoughts about pantries?

_____

185.How much does the property stores things stand out in your thoughts about cellars? _____

186.How much does the property stores things stand out in your thoughts about chests? _____

187.How much does the property stores things stand out in your thoughts about lockers? _____

188.How much does the property stores things stand out in your thoughts about folders? _____

189.How much does the property stores things stand out in your thoughts about computer files?

_____

190.How much does the property stores things stand out in your thoughts about desks? _____

191.How much does the property stores things stand out in your thoughts about shelves? _____

192.How much does the property stores things stand out in your thoughts about refrigerators?

_____

193.How much does the property stores things stand out in your thoughts about time capsules?

_____

194.How much does the property stores things stand out in your thoughts about safes? _____

195.How much does the property stores things stand out in your thoughts about sheds? _____

196.How much does the property stores things stand out in your thoughts about banks? _____

197.How much does the property grown on trees stand out in your thoughts about fruit? _____

198.How much does the property grown on trees stand out in your thoughts about apples?

_____

199.How much does the property grown on trees stand out in your thoughts about oranges?

_____

200.How much does the property grown on trees stand out in your thoughts about bananas?

_____

201.How much does the property grown on trees stand out in your thoughts about leaves?

_____

202.How much does the property grown on trees stand out in your thoughts about bark? _____

203.How much does the property grown on trees stand out in your thoughts about flowers?

_____

204.How much does the property grown on trees stand out in your thoughts about plums?

_____

205.How much does the property grown on trees stand out in your thoughts about pears? _____

206.How much does the property grown on trees stand out in your thoughts about lemons?

_____

207.How much does the property grown on trees stand out in your thoughts about limes? _____

208.How much does the property grown on trees stand out in your thoughts about grapefruits?

_____

209.How much does the property grown on trees stand out in your thoughts about fungus?

_____

210.How much does the property grown on trees stand out in your thoughts about peaches?

_____

211.How much does the property grown on trees stand out in your thoughts about branches?

_____

212.How much does the property grown on trees stand out in your thoughts about cherries?

_____

213.How much does the property grown on trees stand out in your thoughts about pinecones?

_____

214.How much does the property grown on trees stand out in your thoughts about nuts? _____

215.How much does the property has fur stand out in your thoughts about animals? _____

216.How much does the property has fur stand out in your thoughts about dogs? _____

217.How much does the property has fur stand out in your thoughts about cats? _____

218.How much does the property has fur stand out in your thoughts about bears? _____

219.How much does the property has fur stand out in your thoughts about tigers? _____

220.How much does the property has fur stand out in your thoughts about lions? _____

221.How much does the property has fur stand out in your thoughts about raccoons? _____

222.How much does the property has fur stand out in your thoughts about rabbits? _____

223.How much does the property has fur stand out in your thoughts about squirrels? _____

224.How much does the property has fur stand out in your thoughts about deer? _____

225.How much does the property has fur stand out in your thoughts about mammals? _____

226.How much does the property has fur stand out in your thoughts about stuffed toys? _____

227.How much does the property has fur stand out in your thoughts about gerbils? _____

228.How much does the property has fur stand out in your thoughts about hamsters? _____

229.How much does the property blue stand out in your thoughts about skies? _____

230.How much does the property blue stand out in your thoughts about oceans? _____

231.How much does the property blue stand out in your thoughts about water? _____

232.How much does the property blue stand out in your thoughts about blood? _____

233.How much does the property blue stand out in your thoughts about veins? _____

234.How much does the property blue stand out in your thoughts about ink? _____

235.How much does the property blue stand out in your thoughts about blueberries? _____

236.How much does the property blue stand out in your thoughts about jeans? _____

237.How much does the property blue stand out in your thoughts about lakes? _____

238.How much does the property blue stand out in your thoughts about police cars? _____

239.How much does the property blue stand out in your thoughts about baby boy's clothes?

_____

240.How much does the property blue stand out in your thoughts about police uniforms? _____

241.How much does the property blue stand out in your thoughts about school uniforms?

_____

242.How much does the property large stand out in your thoughts about buildings? _____

243.How much does the property large stand out in your thoughts about a universe? _____

244.How much does the property large stand out in your thoughts about elephants? _____

245.How much does the property large stand out in your thoughts about bears? _____

246.How much does the property large stand out in your thoughts about wooly mammoths? _____

247.How much does the property large stand out in your thoughts about warehouses? _____

248.How much does the property large stand out in your thoughts about oceans? _____

249.How much does the property large stand out in your thoughts about office buildings? _____

250.How much does the property large stand out in your thoughts about suns? _____

251.How much does the property large stand out in your thoughts about moons? _____

252.How much does the property large stand out in your thoughts about mountains? _____

253.How much does the property large stand out in your thoughts about rainbows? _____

254.How much does the property large stand out in your thoughts about seas? _____

255.How much does the property large stand out in your thoughts about forests? _____

256.How much does the property large stand out in your thoughts about continents? _____

257.How much does the property large stand out in your thoughts about cities? _____

258.How much does the property large stand out in your thoughts about planets? _____

259.How much does the property large stand out in your thoughts about galaxies? _____

260.How much does the property large stand out in your thoughts about solar systems? _____

261.How much does the property large stand out in your thoughts about whales? _____

262.How much does the property large stand out in your thoughts about giraffes? _____

263.How much does the property crunchy stand out in your thoughts about granola? _____

264.How much does the property crunchy stand out in your thoughts about candy? _____

265.How much does the property crunchy stand out in your thoughts about nuts? _____

266.How much does the property crunchy stand out in your thoughts about pretzels? _____

267.How much does the property crunchy stand out in your thoughts about crackers? _____

268.How much does the property crunchy stand out in your thoughts about chips? _____

269.How much does the property crunchy stand out in your thoughts about celery? _____

270.How much does the property crunchy stand out in your thoughts about carrots? _____

271.How much does the property crunchy stand out in your thoughts about rice krispies? _____

272.How much does the property crunchy stand out in your thoughts about apples? _____

273.How much does the property can walk stand out in your thoughts about man? _____

274.How much does the property can walk stand out in your thoughts about dogs? _____

275.How much does the property can walk stand out in your thoughts about cats? _____

276.How much does the property can walk stand out in your thoughts about animals? _____

277.How much does the property can walk stand out in your thoughts about elephants? _____

278.How much does the property can walk stand out in your thoughts about birds? _____

279.How much does the property can walk stand out in your thoughts about insects? _____

280.How much does the property can walk stand out in your thoughts about horses? _____

281.How much does the property can walk stand out in your thoughts about cows? _____

282.How much does the property can walk stand out in your thoughts about sheep? _____

283.How much does the property can walk stand out in your thoughts about donkeys? _____

284.How much does the property can walk stand out in your thoughts about camels? _____

285.How much does the property can walk stand out in your thoughts about robots? _____

286.How much does the property can fly stand out in your thoughts about birds? _____

287.How much does the property can fly stand out in your thoughts about airplanes? _____

288.How much does the property can fly stand out in your thoughts about rockets? _____

289.How much does the property can fly stand out in your thoughts about insects? _____

290.How much does the property can fly stand out in your thoughts about kites? _____

291.How much does the property can fly stand out in your thoughts about hang gliders? _____

292.How much does the property can fly stand out in your thoughts about bees? _____

293.How much does the property can fly stand out in your thoughts about butterflies? _____

294.How much does the property can fly stand out in your thoughts about flying saucers?

_____

295.How much does the property can fly stand out in your thoughts about flies? _____

296.How much does the property can fly stand out in your thoughts about space shuttles?

_____

297.How much does the property can fly stand out in your thoughts about helicopters? _____

298.How much does the property can fly stand out in your thoughts about eagles? _____

299.How much does the property can fly stand out in your thoughts about hawks? _____

300.How much does the property can fly stand out in your thoughts about sparrows? _____

301.How much does the property can fly stand out in your thoughts about robins? _____

302.How much does the property can fly stand out in your thoughts about jets? _____

303.How much does the property can fly stand out in your thoughts about Frisbees? _____

304.How much does the property red stand out in your thoughts about cardinals? _____

305.How much does the property red stand out in your thoughts about lips? _____

306.How much does the property red stand out in your thoughts about strawberries? _____

307.How much does the property red stand out in your thoughts about raspberries? _____

308.How much does the property red stand out in your thoughts about berries? _____

309.How much does the property red stand out in your thoughts about watermelon? _____

310.How much does the property red stand out in your thoughts about apples? _____

311.How much does the property red stand out in your thoughts about tomatoes? _____

312.How much does the property red stand out in your thoughts about blood? _____

313.How much does the property red stand out in your thoughts about roses? _____

314.How much does the property red stand out in your thoughts about stop signs? _____

315.How much does the property red stand out in your thoughts about cherries? _____

316.How much does the property red stand out in your thoughts about hearts? _____

317.How much does the property red stand out in your thoughts about fire engines? _____

318.How much does the property red stand out in your thoughts about peppers? _____

319.How much does the property red stand out in your thoughts about cardinals? _____

320.How much does the property can swim stand out in your thoughts about people? _____

321.How much does the property can swim stand out in your thoughts about fish? _____

322.How much does the property can swim stand out in your thoughts about sharks? _____

323.How much does the property can swim stand out in your thoughts about turtles? _____

324.How much does the property can swim stand out in your thoughts about eels? _____

325.How much does the property can swim stand out in your thoughts about ducks? _____

326.How much does the property can swim stand out in your thoughts about swans? _____

327.How much does the property can swim stand out in your thoughts about dolphins? _____

328.How much does the property can swim stand out in your thoughts about whales? _____

329.How much does the property can swim stand out in your thoughts about penguins? _____

330.How much does the property has a tail stand out in your thoughts about animals? _____

331.How much does the property has a tail stand out in your thoughts about donkeys? _____

332.How much does the property has a tail stand out in your thoughts about horses? _____

333.How much does the property has a tail stand out in your thoughts about birds? _____

334.How much does the property has a tail stand out in your thoughts about whales? _____

335.How much does the property has a tail stand out in your thoughts about cats? _____

336.How much does the property has a tail stand out in your thoughts about elephants? _____

337.How much does the property has a tail stand out in your thoughts about rabbits? _____

338.How much does the property has a tail stand out in your thoughts about deer? _____

339.How much does the property has a tail stand out in your thoughts about rats? _____

340.How much does the property has a tail stand out in your thoughts about mice? _____

341.How much does the property has a tail stand out in your thoughts about dogs? _____

342.How much does the property has a tail stand out in your thoughts about lizards? _____

343.How much does the property has a tail stand out in your thoughts about lions? _____

344.How much does the property has a tail stand out in your thoughts about pigs? _____

345.How much does the property has a tail stand out in your thoughts about cows? _____

346.How much does the property has a tail stand out in your thoughts about kangaroos? _____

347.How much does the property has a tail stand out in your thoughts about monkeys? _____

348.How much does the property has a tail stand out in your thoughts about foxes? _____

349.How much does the property has a tail stand out in your thoughts about kites? _____

350.How much does the property is alive stand out in your thoughts about humans? _____

351.How much does the property is alive stand out in your thoughts about animals? _____

352.How much does the property is alive stand out in your thoughts about plants? _____

353.How much does the property is alive stand out in your thoughts about frogs? _____

354.How much does the property is alive stand out in your thoughts about bugs? _____

355.How much does the property is alive stand out in your thoughts about rabbits? _____

356.How much does the property is alive stand out in your thoughts about worms? _____

357.How much does the property is alive stand out in your thoughts about bears? _____

358.How much does the property is alive stand out in your thoughts about dogs? _____

359.How much does the property is alive stand out in your thoughts about cats? _____

360.How much does the property is alive stand out in your thoughts about fish? _____

361.How much does the property is alive stand out in your thoughts about horses? _____

362.How much does the property is alive stand out in your thoughts about ants? _____

363.How much does the property is alive stand out in your thoughts about flies? _____

364.How much does the property is alive stand out in your thoughts about grass? _____

365.How much does the property is alive stand out in your thoughts about flowers? _____

366.How much does the property is alive stand out in your thoughts about organisms? _____

367.How much does the property is alive stand out in your thoughts about bacteria? _____

368.How much does the property is alive stand out in your thoughts about mammals? _____

369.How much does the property is alive stand out in your thoughts about fungi? _____

370.How much does the property is alive stand out in your thoughts about birds? _____

371.How much does the property is alive stand out in your thoughts about viruses? _____

372.How much does the property edible stand out in your thoughts about food? _____

373.How much does the property edible stand out in your thoughts about candy? _____

374.How much does the property edible stand out in your thoughts about vegetables? _____

375.How much does the property edible stand out in your thoughts about fruit? _____

376.How much does the property edible stand out in your thoughts about meat? _____

377.How much does the property edible stand out in your thoughts about cereals? _____

378.How much does the property edible stand out in your thoughts about cookies? _____

379.How much does the property edible stand out in your thoughts about chicken? _____

380.How much does the property edible stand out in your thoughts about hamburgers? _____

381.How much does the property edible stand out in your thoughts about bananas? _____

382.How much does the property edible stand out in your thoughts about apples? _____

383.How much does the property edible stand out in your thoughts about oranges? _____

384.How much does the property edible stand out in your thoughts about carrots? _____

385.How much does the property edible stand out in your thoughts about rice? _____

386.How much does the property edible stand out in your thoughts about noodles? _____

387.How much does the property edible stand out in your thoughts about ice cubes? _____

388.How much does the property edible stand out in your thoughts about fish? _____

389.How much does the property edible stand out in your thoughts about cheese? _____

390.How much does the property leather stand out in your thoughts about pocketbooks? _____

391.How much does the property leather stand out in your thoughts about coats? _____

392.How much does the property leather stand out in your thoughts about saddles? _____

393.How much does the property leather stand out in your thoughts about boots? _____

394.How much does the property leather stand out in your thoughts about watchbands? _____

395.How much does the property leather stand out in your thoughts about belts? _____

Set B

396. How much does the property leather stand out in your thoughts about couches? _____

397. How much does the property leather stand out in your thoughts about car interiors? _____

398. How much does the property leather stand out in your thoughts about shoes? _____

399. How much does the property leather stand out in your thoughts about wallets? _____

400. How much does the property leather stand out in your thoughts about briefcases? _____

401. How much does the property has a handle stand out in your thoughts about cups? _____

402.How much does the property has a handle stand out in your thoughts about mugs? _____

403.How much does the property has a handle stand out in your thoughts about pots? _____

404.How much does the property has a handle stand out in your thoughts about pocketbooks?

_____

405.How much does the property has a handle stand out in your thoughts about baskets? _____

406.How much does the property has a handle stand out in your thoughts about car doors?

_____

407.How much does the property has a handle stand out in your thoughts about lunch boxes?

_____

408.How much does the property has a handle stand out in your thoughts about toolboxes?

_____

409.How much does the property has a handle stand out in your thoughts about briefcases?

_____

410.How much does the property has a handle stand out in your thoughts about umbrellas?

_____

411.How much does the property has a handle stand out in your thoughts about shopping bags?

_____

412.How much does the property has a handle stand out in your thoughts about pans? _____

413.How much does the property sticky stand out in your thoughts about glue? _____

414.How much does the property sticky stand out in your thoughts about tape? _____

415.How much does the property sticky stand out in your thoughts about bubble gum? _____

416.How much does the property sticky stand out in your thoughts about tar? _____

417.How much does the property sticky stand out in your thoughts about honey? _____

418.How much does the property sticky stand out in your thoughts about syrup? _____

419.How much does the property sticky stand out in your thoughts about molasses? _____

420.How much does the property sticky stand out in your thoughts about candy? _____

421.How much does the property sticky stand out in your thoughts about lollipops? _____

422.How much does the property sticky stand out in your thoughts about scotch tape? _____

423.How much does the property sticky stand out in your thoughts about packing tape? _____

424.How much does the property sticky stand out in your thoughts about adhesives? _____

425.How much does the property sticky stand out in your thoughts about band-ids? _____

426.How much does the property sticky stand out in your thoughts about rubber cement? _____

427.How much does the property sticky stand out in your thoughts about stickers? _____

428.How much does the property sticky stand out in your thoughts about jelly? _____

429.How much does the property sticky stand out in your thoughts about jam? _____

430.How much does the property sticky stand out in your thoughts about peanut butter? _____

431.How much does the property smelly stand out in your thoughts about garbage? _____

432.How much does the property smelly stand out in your thoughts about manure? _____

433.How much does the property smelly stand out in your thoughts about skunk? _____

434.How much does the property smelly stand out in your thoughts about feet? _____

435.How much does the property smelly stand out in your thoughts about ammonia? _____

436.How much does the property smelly stand out in your thoughts about bleach? _____

437.How much does the property smelly stand out in your thoughts about fish? _____

438.How much does the property smelly stand out in your thoughts about rotten eggs? _____

439.How much does the property smelly stand out in your thoughts about gym socks? _____

440.How much does the property smelly stand out in your thoughts about public bathrooms?

_____

441.How much does the property smelly stand out in your thoughts about spoiled milk? _____

442.How much does the property smelly stand out in your thoughts about garlic? _____

443.How much does the property smelly stand out in your thoughts about onions? _____

444.How much does the property smelly stand out in your thoughts about sulfur? _____

445.How much does the property smelly stand out in your thoughts about body order? _____

446.How much does the property smelly stand out in your thoughts about halitosis? _____

447.How much does the property liquid stand out in your thoughts about water? _____

448.How much does the property liquid stand out in your thoughts about juice? _____

449.How much does the property liquid stand out in your thoughts about soda? _____

450.How much does the property liquid stand out in your thoughts about beer? _____

451.How much does the property liquid stand out in your thoughts about wine? _____

452.How much does the property liquid stand out in your thoughts about alcohol? _____

453.How much does the property liquid stand out in your thoughts about blood? _____

454.How much does the property liquid stand out in your thoughts about rain? _____

455.How much does the property liquid stand out in your thoughts about milk? _____

456.How much does the property liquid stand out in your thoughts about oil? _____

457.How much does the property liquid stand out in your thoughts about tears? _____

458.How much does the property liquid stand out in your thoughts about soup? _____

459.How much does the property liquid stand out in your thoughts about pools? _____

460.How much does the property liquid stand out in your thoughts about oceans? _____

461.How much does the property hot stand out in your thoughts about suns? _____

462.How much does the property hot stand out in your thoughts about fire? _____

463.How much does the property hot stand out in your thoughts about ovens? _____

464.How much does the property hot stand out in your thoughts about stovetops? _____

465.How much does the property hot stand out in your thoughts about candles? _____

466.How much does the property hot stand out in your thoughts about fireplaces? _____

467.How much does the property hot stand out in your thoughts about heaters? _____

468.How much does the property hot stand out in your thoughts about summers? _____

469.How much does the property hot stand out in your thoughts about cayenne peppers? _____

470.How much does the property hot stand out in your thoughts about coffee? _____

471.How much does the property hot stand out in your thoughts about tea? _____

472.How much does the property hot stand out in your thoughts about cinnamon? _____

473.How much does the property hot stand out in your thoughts about jalapenos? _____

474.How much does the property hot stand out in your thoughts about chipolte peppers? _____

475.How much does the property hot stand out in your thoughts about salsa? _____

476.How much does the property hot stand out in your thoughts about toasters? _____

477.How much does the property hot stand out in your thoughts about boiling water? _____

478.How much does the property hot stand out in your thoughts about steam? _____

479.How much does the property hot stand out in your thoughts about chili peppers? _____

480.How much does the property sweet stand out in your thoughts about candy? _____

481.How much does the property sweet stand out in your thoughts about fruit? _____

482.How much does the property sweet stand out in your thoughts about cake? _____

483.How much does the property sweet stand out in your thoughts about cookies? _____

484.How much does the property sweet stand out in your thoughts about pies? _____

485.How much does the property sweet stand out in your thoughts about ice cream? _____

486.How much does the property sweet stand out in your thoughts about Popsicles? _____

487.How much does the property sweet stand out in your thoughts about juices? _____

488.How much does the property sweet stand out in your thoughts about sodas? _____

489.How much does the property sweet stand out in your thoughts about honey? _____

490.How much does the property sweet stand out in your thoughts about chocolate? _____

491.How much does the property sweet stand out in your thoughts about apples? _____

492.How much does the property sweet stand out in your thoughts about caramel? _____

493.How much does the property sweet stand out in your thoughts about cherries? _____

494.How much does the property sweet stand out in your thoughts about pastries? _____

495.How much does the property sweet stand out in your thoughts about cotton candy? _____

496.How much does the property sweet stand out in your thoughts about lemonade? _____

497.How much does the property sweet stand out in your thoughts about lollipops? _____

498.How much does the property sweet stand out in your thoughts about gumdrops? _____

499.How much does the property sweet stand out in your thoughts about dessert? _____

500.How much does the property sharp stand out in your thoughts about knives? _____

501.How much does the property sharp stand out in your thoughts about swords? _____

502.How much does the property sharp stand out in your thoughts about thumbtacks? _____

503.How much does the property sharp stand out in your thoughts about razors? _____

504.How much does the property sharp stand out in your thoughts about scissors? _____

505.How much does the property sharp stand out in your thoughts about blades? _____

506.How much does the property sharp stand out in your thoughts about needles? _____

507.How much does the property slimy stand out in your thoughts about worms? _____

508.How much does the property slimy stand out in your thoughts about mucus? _____

509.How much does the property slimy stand out in your thoughts about snails? _____

510.How much does the property slimy stand out in your thoughts about leeches? _____

511.How much does the property slimy stand out in your thoughts about seaweed? _____

512.How much does the property slimy stand out in your thoughts about jellyfish? _____

513.How much does the property slimy stand out in your thoughts about oysters? _____

514.How much does the property slimy stand out in your thoughts about lotions? _____

515.How much does the property slimy stand out in your thoughts about oils? _____

516.How much does the property slimy stand out in your thoughts about slugs? _____

517.How much does the property noisy stand out in your thoughts about airplanes? _____

518.How much does the property noisy stand out in your thoughts about traffic? _____

519.How much does the property noisy stand out in your thoughts about drums? _____

520.How much does the property noisy stand out in your thoughts about sirens? _____

521.How much does the property noisy stand out in your thoughts about horns? _____

522.How much does the property noisy stand out in your thoughts about cymbals? _____

523.How much does the property noisy stand out in your thoughts about parties? _____

524.How much does the property noisy stand out in your thoughts about concerts? _____

525.How much does the property noisy stand out in your thoughts about clubs? _____

526.How much does the property noisy stand out in your thoughts about drills? _____

527.How much does the property noisy stand out in your thoughts about jackhammers? _____

528.How much does the property noisy stand out in your thoughts about crying babies? _____

529.How much does the property noisy stand out in your thoughts about construction? _____

530.How much does the property noisy stand out in your thoughts about fireworks? _____

531.How much does the property sour stand out in your thoughts about lemons? _____

532.How much does the property sour stand out in your thoughts about limes? _____

533.How much does the property sour stand out in your thoughts about vinegar? _____

534.How much does the property sour stand out in your thoughts about bad milk? _____

535.How much does the property sour stand out in your thoughts about green apples? _____

536.How much does the property can hop stand out in your thoughts about rabbits? _____

537.How much does the property can hop stand out in your thoughts about kangaroos? _____

538.How much does the property can hop stand out in your thoughts about grasshoppers?

_____

539.How much does the property can hop stand out in your thoughts about frogs? _____

540.How much does the property can hop stand out in your thoughts about toads? _____

541.How much does the property can hop stand out in your thoughts about crickets? _____

542.How much does the property can hop stand out in your thoughts about Tigger? _____

543.How much does the property can hop stand out in your thoughts about fleas? _____

544.How much does the property has shells stand out in your thoughts about peanuts? _____

545.How much does the property has shells stand out in your thoughts about walnuts? _____

546.How much does the property has shells stand out in your thoughts about pecans? _____

547.How much does the property has shells stand out in your thoughts about chestnuts? _____

548.How much does the property has shells stand out in your thoughts about mollusks? _____

549.How much does the property has shells stand out in your thoughts about clams? _____

550.How much does the property has shells stand out in your thoughts about snails? _____

551.How much does the property has shells stand out in your thoughts about crabs? _____

552.How much does the property has shells stand out in your thoughts about shrimps? _____

553.How much does the property has shells stand out in your thoughts about scallops? _____

554.How much does the property has shells stand out in your thoughts about lobsters? _____

555.How much does the property has shells stand out in your thoughts about seeds? _____

556.How much does the property has shells stand out in your thoughts about cashews? _____

557.How much does the property has shells stand out in your thoughts about pistachios? _____

558.How much does the property has shells stand out in your thoughts about turtles? _____

559.How much does the property has shells stand out in your thoughts about oysters? _____

560.How much does the property has shells stand out in your thoughts about hermit crabs?

_____

561.How much does the property has shells stand out in your thoughts about M&M's? _____

562.How much does the property yellow stand out in your thoughts about a sun? _____

563.How much does the property yellow stand out in your thoughts about lemons? _____

564.How much does the property yellow stand out in your thoughts about highlighters? _____

565.How much does the property yellow stand out in your thoughts about lemonade? _____

566.How much does the property yellow stand out in your thoughts about bananas? _____

567.How much does the property yellow stand out in your thoughts about tennis balls? _____

568.How much does the property yellow stand out in your thoughts about corn? _____

569.How much does the property yellow stand out in your thoughts about yield signs? _____

570.How much does the property yellow stand out in your thoughts about school buses? _____

571.How much does the property yellow stand out in your thoughts about bees? _____

572.How much does the property yellow stand out in your thoughts about cheese? _____

573.How much does the property yellow stand out in your thoughts about taxis? _____

574.How much does the property yellow stand out in your thoughts about Big Bird? _____

575.How much does the property yellow stand out in your thoughts about legal pads? _____

576.How much does the property soft stand out in your thoughts about pillows? _____

577.How much does the property soft stand out in your thoughts about cotton? _____

578.How much does the property soft stand out in your thoughts about skin? _____

579.How much does the property soft stand out in your thoughts about fur? _____

580.How much does the property soft stand out in your thoughts about kittens? _____

581.How much does the property soft stand out in your thoughts about puppies? _____

582.How much does the property soft stand out in your thoughts about silk? _____

583.How much does the property soft stand out in your thoughts about cashmere? _____

584.How much does the property soft stand out in your thoughts about rabbits? _____

585.How much does the property soft stand out in your thoughts about babies? _____

586.How much does the property soft stand out in your thoughts about rose petals? _____

587.How much does the property soft stand out in your thoughts about satin? _____

588.How much does the property soft stand out in your thoughts about velvet? _____

589.How much does the property soft stand out in your thoughts about feathers? _____

590.How much does the property has seeds stand out in your thoughts about fruits? _____

591.How much does the property has seeds stand out in your thoughts about vegetables? _____

592.How much does the property has seeds stand out in your thoughts about trees? _____

593.How much does the property has seeds stand out in your thoughts about apples? _____

594.How much does the property has seeds stand out in your thoughts about grapes? _____

595.How much does the property has seeds stand out in your thoughts about tomatoes? _____

596.How much does the property has seeds stand out in your thoughts about pumpkins? _____

597.How much does the property has seeds stand out in your thoughts about sunflowers? _____

598.How much does the property has seeds stand out in your thoughts about oranges? _____

599.How much does the property has seeds stand out in your thoughts about grapefruits? _____

600.How much does the property has seeds stand out in your thoughts about watermelon? _____

601.How much does the property has seeds stand out in your thoughts about cucumbers? _____

602.How much does the property cold stand out in your thoughts about snow? _____

603.How much does the property cold stand out in your thoughts about freezers? _____

604.How much does the property cold stand out in your thoughts about cellars? _____

605.How much does the property cold stand out in your thoughts about Antarctica? _____

606.How much does the property cold stand out in your thoughts about ice cream? _____

607.How much does the property cold stand out in your thoughts about ice cubes? _____

608.How much does the property cold stand out in your thoughts about Popsicles? _____

609.How much does the property cold stand out in your thoughts about winters? _____

610.How much does the property cold stand out in your thoughts about blizzards? _____

611.How much does the property cold stand out in your thoughts about refrigerators? _____

612.How much does the property cold stand out in your thoughts about air-conditioning? _____

613.How much does the property cold stand out in your thoughts about swimming-pools? _____

614.How much does the property cold stand out in your thoughts about glaciers? _____

615.How much does the property cold stand out in your thoughts about frozen-foods? _____

616.How much does the property cold stand out in your thoughts about icicles? _____

617.How much does the property skin stand out in your thoughts about animals? _____

618.How much does the property skin stand out in your thoughts about people? _____

619.How much does the property skin stand out in your thoughts about grapes? _____

620.How much does the property skin stand out in your thoughts about chickens? _____

621.How much does the property skin stand out in your thoughts about cows? _____

622.How much does the property skin stand out in your thoughts about dogs? _____

623.How much does the property skin stand out in your thoughts about rabbits? _____

624.How much does the property skin stand out in your thoughts about birds? _____

625.How much does the property skin stand out in your thoughts about monkeys? _____

626.How much does the property skin stand out in your thoughts about onions? _____

627.How much does the property skin stand out in your thoughts about garlic? _____

628.How much does the property skin stand out in your thoughts about apples? _____

629.How much does the property skin stand out in your thoughts about tomatoes? _____

630.How much does the property skin stand out in your thoughts about mammals? _____

631.How much does the property skin stand out in your thoughts about reptiles? _____

632.How much does the property skin stand out in your thoughts about snakes? _____

633.How much does the property skin stand out in your thoughts about alligators? _____

634.How much does the property skin stand out in your thoughts about fruits? _____

635.How much does the property skin stand out in your thoughts about vegetables? _____

636.How much does the property reflective stand out in your thoughts about mirrors? _____

637.How much does the property reflective stand out in your thoughts about glass? _____

638.How much does the property reflective stand out in your thoughts about aluminum? _____

639.How much does the property reflective stand out in your thoughts about chrome? _____

640.How much does the property reflective stand out in your thoughts about steel? _____

641.How much does the property salty stand out in your thoughts about potato chips? _____

642.How much does the property salty stand out in your thoughts about pretzels? _____

643.How much does the property salty stand out in your thoughts about nacho chips? _____

644.How much does the property salty stand out in your thoughts about soy sauce? _____

645.How much does the property salty stand out in your thoughts about seawater? _____

646.How much does the property salty stand out in your thoughts about margaritas? _____

647.How much does the property salty stand out in your thoughts about tears? _____

648.How much does the property salty stand out in your thoughts about food? _____

649.How much does the property salty stand out in your thoughts about sweat? _____

650.How much does the property salty stand out in your thoughts about popcorn? _____

651.How much does the property salty stand out in your thoughts about peanuts? _____

652.How much does the property salty stand out in your thoughts about nuts? _____

653.How much does the property salty stand out in your thoughts about crackers? _____

654.How much does the property salty stand out in your thoughts about french fries? _____

655.How much does the property salty stand out in your thoughts about saltines? _____

656.How much does the property has leaves stand out in your thoughts about flowers? _____

657.How much does the property has leaves stand out in your thoughts about bushes? _____

658.How much does the property has leaves stand out in your thoughts about vines? _____

659.How much does the property has leaves stand out in your thoughts about plants? _____

660.How much does the property has leaves stand out in your thoughts about forests? _____

661.How much does the property has leaves stand out in your thoughts about oaks? _____

662.How much does the property has leaves stand out in your thoughts about herbs? _____

663.How much does the property has leaves stand out in your thoughts about weeds? _____

664.How much does the property has leaves stand out in your thoughts about lettuce? _____

665.How much does the property has leaves stand out in your thoughts about spinach? _____

666.How much does the property ferocious stand out in your thoughts about bears? _____

667.How much does the property ferocious stand out in your thoughts about lions? _____

668.How much does the property ferocious stand out in your thoughts about tigers? _____

669.How much does the property ferocious stand out in your thoughts about alligators? _____

670.How much does the property ferocious stand out in your thoughts about crocodiles? _____

671.How much does the property ferocious stand out in your thoughts about wild animals?

_____

672.How much does the property transparent stand out in your thoughts about glass? _____

673.How much does the property transparent stand out in your thoughts about Plexiglas? _____

674.How much does the property transparent stand out in your thoughts about plastic? _____

675.How much does the property transparent stand out in your thoughts about soda bottles?

_____

676.How much does the property transparent stand out in your thoughts about air? _____

677.How much does the property transparent stand out in your thoughts about water? _____

678.How much does the property transparent stand out in your thoughts about oil? _____

679.How much does the property transparent stand out in your thoughts about tears? _____

680.How much does the property transparent stand out in your thoughts about ice? _____

681.How much does the property triangular stand out in your thoughts about yield signs?

_____

682.How much does the property triangular stand out in your thoughts about a piece of pie?

_____

683.How much does the property triangular stand out in your thoughts about sandwiches?

_____

684.How much does the property triangular stand out in your thoughts about a slice of pizza?

_____

685.How much does the property dangerous stand out in your thoughts about airplanes? _____

686.How much does the property dangerous stand out in your thoughts about wet roads? _____

687.How much does the property dangerous stand out in your thoughts about fire? _____

688.How much does the property dangerous stand out in your thoughts about earthquakes?

_____

689.How much does the property dangerous stand out in your thoughts about hurricanes?

_____

690.How much does the property dangerous stand out in your thoughts about tornados? _____

691.How much does the property dangerous stand out in your thoughts about robbers? _____

692.How much does the property dangerous stand out in your thoughts about murderers? _____

693.How much does the property dangerous stand out in your thoughts about snakes? _____

694.How much does the property dangerous stand out in your thoughts about cancers? _____

695.How much does the property dangerous stand out in your thoughts about strokes? _____

696.How much does the property dangerous stand out in your thoughts about wild animals?

_____

697.How much does the property dangerous stand out in your thoughts about war? _____

698.How much does the property dangerous stand out in your thoughts about lions? _____

699.How much does the property dangerous stand out in your thoughts about guns? _____

700.How much does the property dangerous stand out in your thoughts about knives? _____

701.How much does the property dangerous stand out in your thoughts about drag racing? _____

702.How much does the property dangerous stand out in your thoughts about scuba diving? _____

703.How much does the property can roll stand out in your thoughts about wheels? _____

704.How much does the property can roll stand out in your thoughts about balls? _____

705.How much does the property can roll stand out in your thoughts about logs? _____

706.How much does the property can roll stand out in your thoughts about tires? _____

707.How much does the property can roll stand out in your thoughts about snowballs? _____

708.How much does the property can roll stand out in your thoughts about pennies? _____

709.How much does the property furry stand out in your thoughts about cats? _____

710.How much does the property furry stand out in your thoughts about dogs? _____

711.How much does the property furry stand out in your thoughts about hamsters? _____

712.How much does the property furry stand out in your thoughts about gerbils? _____

713.How much does the property furry stand out in your thoughts about squirrels? _____

714.How much does the property furry stand out in your thoughts about rabbits? _____

715.How much does the property furry stand out in your thoughts about animals? _____

716.How much does the property tall stand out in your thoughts about trees? _____

717.How much does the property tall stand out in your thoughts about buildings? _____

718.How much does the property tall stand out in your thoughts about ladders? _____

719.How much does the property tall stand out in your thoughts about flagpoles? _____

720.How much does the property tall stand out in your thoughts about towers? _____

721.How much does the property tall stand out in your thoughts about streetlights? _____

722.How much does the property tall stand out in your thoughts about basketball players? _____

723.How much does the property tall stand out in your thoughts about telephone poles? _____

724.How much does the property tall stand out in your thoughts about mountains? _____

725.How much does the property green stand out in your thoughts about leaves? _____

726.How much does the property green stand out in your thoughts about grass? _____

727.How much does the property green stand out in your thoughts about trees? _____

728.How much does the property green stand out in your thoughts about vegetables? _____

729.How much does the property green stand out in your thoughts about broccoli? _____

730.How much does the property green stand out in your thoughts about peas? _____

731.How much does the property green stand out in your thoughts about money? _____

732.How much does the property green stand out in your thoughts about plants? _____

733.How much does the property green stand out in your thoughts about apples? _____

734.How much does the property green stand out in your thoughts about traffic-lights? _____

735.How much does the property green stand out in your thoughts about frogs? _____

736.How much does the property green stand out in your thoughts about lizards? _____

737.How much does the property green stand out in your thoughts about moss? _____

738.How much does the property green stand out in your thoughts about pears? _____

739.How much does the property green stand out in your thoughts about herbs? _____

740.How much does the property green stand out in your thoughts about artificial turf? _____

741.How much does the property green stand out in your thoughts about emeralds? _____

742.How much does the property green stand out in your thoughts about shamrocks? _____

743.How much does the property spicy stand out in your thoughts about Mexican food? _____

744.How much does the property spicy stand out in your thoughts about Indian food? _____

745.How much does the property spicy stand out in your thoughts about buffalo wings? _____

746.How much does the property spicy stand out in your thoughts about Cajun food? _____

747.How much does the property loud stand out in your thoughts about construction work?

_____

748.How much does the property loud stand out in your thoughts about yelling? _____

749.How much does the property loud stand out in your thoughts about screaming? _____

750.How much does the property loud stand out in your thoughts about crying? _____

751.How much does the property loud stand out in your thoughts about horns? _____

752.How much does the property loud stand out in your thoughts about traffic? _____

753.How much does the property loud stand out in your thoughts about earthquakes? _____

754.How much does the property loud stand out in your thoughts about accidents? _____

755.How much does the property loud stand out in your thoughts about motorcycles? _____

756.How much does the property loud stand out in your thoughts about jackhammers? _____

757.How much does the property loud stand out in your thoughts about airplanes? _____

758.How much does the property loud stand out in your thoughts about concerts? _____

759.How much does the property loud stand out in your thoughts about avalanches? _____

760.How much does the property loud stand out in your thoughts about explosions? _____

761.How much does the property loud stand out in your thoughts about gun-fire? _____

762.How much does the property loud stand out in your thoughts about sirens? _____

763.How much does the property loud stand out in your thoughts about fireworks? _____

764.How much does the property loud stand out in your thoughts about babies crying? _____

765.How much does the property loud stand out in your thoughts about stomping? _____

766.How much does the property loud stand out in your thoughts about thunder? _____

767.How much does the property loud stand out in your thoughts about rockets? _____

768.How much does the property extravagant stand out in your thoughts about first class tickets?

_____

769.How much does the property extravagant stand out in your thoughts about jewelry? _____

770.How much does the property extravagant stand out in your thoughts about diamonds?

_____

771.How much does the property extravagant stand out in your thoughts about weddings?

_____

772.How much does the property extravagant stand out in your thoughts about Broadway plays?

_____

773.How much does the property extravagant stand out in your thoughts about palaces? _____

774.How much does the property extravagant stand out in your thoughts about yachts? _____

775.How much does the property extravagant stand out in your thoughts about ball gowns?

_____

776.How much does the property extravagant stand out in your thoughts about wedding cakes?

_____

777.How much does the property extravagant stand out in your thoughts about fancy wines?

_____

778.How much does the property spotted stand out in your thoughts about Dalmatians? _____

779.How much does the property spotted stand out in your thoughts about cows? _____

780.How much does the property spotted stand out in your thoughts about cheetahs? _____

781.How much does the property spotted stand out in your thoughts about leopards? _____

782.How much does the property freezing stand out in your thoughts about winters? _____

783.How much does the property freezing stand out in your thoughts about freezers? _____

784.How much does the property freezing stand out in your thoughts about air conditioning?

_____

785.How much does the property freezing stand out in your thoughts about ice? _____

786.How much does the property freezing stand out in your thoughts about snow? _____

787.How much does the property freezing stand out in your thoughts about ice cream? _____

788.How much does the property freezing stand out in your thoughts about the North Pole?

_____

789.How much does the property freezing stand out in your thoughts about Popsicles? _____

790.How much does the property freezing stand out in your thoughts about sleet? _____

APPENDIX D

COMPLETE SET OF SURPRISE QUESTIONS-EXPERIMENT 1

Set A

1. Of all the things that are scary how many of them are snakes? _____
2. Of all the things that are scary how many of them are monsters? _____
3. Of all the things that are scary how many of them are vampires? _____
4. Of all the things that are scary how many of them are bats? _____
5. Of all the things that are scary how many of them are spiders? _____
6. Of all the things that are scary how many of them are haunted houses? _____
7. Of all the things that are scary how many of them are ghosts? _____
8. Of all the things that are scary how many of them are witches? _____
9. Of all the things that are scary how many of them are nightmares? _____
10. Of all the things that are fast how many of them are cars? _____
11. Of all the things that are fast how many of them are cheetahs? _____
12. Of all the things that are fast how many of them are planes? _____
13. Of all the things that are fast how many of them are milliseconds? _____
14. Of all the things that are fast how many of them are leopards? _____
15. Of all the things that are fast how many of them are roadrunners? _____
16. Of all the things that are fast how many of them are sports cars? _____
17. Of all the things that are fast how many of them are racecars? _____
18. Of all the things that are fast how many of them are track athletes? _____
19. Of all the things that are fast how many of them are horse races? _____
20. Of all the things that are fast how many of them are concords? _____
21. Of all the things that are fast how many of them are trains? _____
22. Of all the things that are fast how many of them are speedboats? _____
23. Of all the things that are fast how many of them are light? _____
24. Of all the things that are poisonous how many of them are cyanide? _____
25. Of all the things that are poisonous how many of them are lead? _____
26. Of all the things that are poisonous how many of them are chemicals? _____
27. Of all the things that are poisonous how many of them are venom? _____
28. Of all the things that are poisonous how many of them are strychnine? _____
29. Of all the things that are poisonous how many of them are ammonia? _____
30. Of all the things that are poisonous how many of them are bleach? _____
31. Of all the things that are poisonous how many of them are roach killers? _____
32. Of all the things that are poisonous how many of them are weed killer? _____

33. Of all the things that are poisonous how many of them are spiders? _____
34. Of all the things that are poisonous how many of them are gas? _____
35. Of all the things that are poisonous how many of them are household cleaners? _____
36. Of all the things that are poisonous how many of them are berries? _____
37. Of all the things that are poisonous how many of them are hemlock? _____
38. Of all the things that are round how many of them are clock faces? _____
39. Of all the things that are round how many of them are traffic circles? _____
40. Of all the things that are round how many of them are rings? _____
41. Of all the things that are round how many of them have wheels? _____
42. Of all the things that are round how many of them are glasses? _____
43. Of all the things that are round how many of them are domes? _____
44. Of all the things that are round how many of them are planets? _____
45. Of all the things that are round how many of them are moons? _____
46. Of all the things that are round how many of them are CD's? _____
47. Of all the things that are round how many of them are records? _____
48. Of all the things that are round how many of them are eyes? _____
49. Of all the things that are round how many of them are balls? _____
50. Of all the things that are round how many of them are lollipops? _____
51. Of all the things that are round how many of them are oranges? _____
52. Of all the things that are round how many of them are earth? _____
53. Of all the things that are round how many of them are the sun? _____
54. Of all the things that are round how many of them are cookies? _____
55. Of all the things that are clear how many of them are glass? _____
56. Of all the things that are clear how many of them are water? _____
57. Of all the things that are clear how many of them are tears? _____
58. Of all the things that are clear how many of them are plastic? _____
59. Of all the things that are clear how many of them are air? _____
60. Of all the things that are clear how many of them are cellophane? _____
61. Of all the things that are clear how many of them are Plexiglas? _____
62. Of all the things that are clear how many of them are windows? _____
63. Of all the things that are clear how many of them are eyeglasses? _____
64. Of all the things that are clear how many of them are saran wrap? _____
65. Of all the things that are clear how many of them are broth? _____
66. Of all the things that are clear how many of them are contacts? _____
67. Of all the things that are grainy how many of them are bread? _____
68. Of all the things that are grainy how many of them are wood? _____
69. Of all the things that are grainy how many of them are cereal? _____

70. Of all the things that are grainy how many of them are sand? _____
71. Of all the things that are grainy how many of them are dirt? _____
72. Of all the things that are grainy how many of them are grout? _____
73. Of all the things that are grainy how many of them are sandpaper? _____
74. Of all the things that are grainy how many of them are sugar? _____
75. Of all the things that are wooden how many of them are desks? _____
76. Of all the things that are wooden how many of them are chairs? _____
77. Of all the things that are wooden how many of them are beds? _____
78. Of all the things that are wooden how many of them are houses? _____
79. Of all the things that are wooden how many of them are shutters? _____
80. Of all the things that are wooden how many of them are pirate legs? _____
81. Of all the things that are wooden how many of them are doors? _____
82. Of all the things that are wooden how many of them are birdhouses? _____
83. Of all the things that are wooden how many of them are fence posts? _____
84. Of all the things that are wooden how many of them are dressers? _____
85. Of all the things that are wooden how many of them are benches? _____
86. Of all the things that are wooden how many of them are crates? _____
87. Of all the things that are wooden how many of them are trees? _____
88. Of all the things that are wooden how many of them are baseball bats? _____
89. Of all the things that are wooden how many of them are puppets? _____
90. Of all the things that are wooden how many of them are blocks? _____
91. Of all the things that are wooden how many of them are floors? _____
92. Of all the things that are wooden how many of them are cabinets? _____
93. Of all the things that are wooden how many of them are oars? _____
94. Of all the things that are wooden how many of them are a log cabin? _____
95. Of all the things that are wooden how many of them are pencils? _____
96. Of all the things that are wooden how many of them are rafts? _____
97. Of all the things that have wheels how many of them are cars? _____
98. Of all the things that have wheels how many of them are trucks? _____
99. Of all the things that have wheels how many of them are bicycles? _____
100. Of all the things that have wheels how many of them are tricycles
101. Of all the things that have wheels how many of them are airplanes
102. Of all the things that have wheels how many of them are vans
103. Of all the things that have wheels how many of them are skateboards? _____
104. Of all the things that have wheels how many of them are scooters
105. Of all the things that have wheels how many of them are motorcycles
106. Of all the things that have wheels how many of them are wheelchairs? _____

107.Of all the things that have wheels how many of them are office chairs? _____

108.Of all the things that have wheels how many of them are wagons? _____

109.Of all the things that have wheels how many of them are wheelbarrows? _____

110.Of all the things that have wheels how many of them are trains? _____

111.Of all the things that have wheels how many of them are unicycles? _____

112.Of all the things that have wheels how many of them are baby carriages? _____

113.Of all the things that have wheels how many of them are roller coasters? _____

114.Of all the things that have wheels how many of them are go-carts? _____

115.Of all the things that have wheels how many of them are buses? _____

116.Of all the things that have wheels how many of them are matchbox cars? _____

117.Of all the things that have wheels how many of them are roller-skates? _____

118.Of all the things that have wheels how many of them are roller blades? _____

119.Of all the things that have wheels how many of them are toys? _____

120.Of all the things that are rubber how many of them are tires? _____

121.Of all the things that are rubber how many of them are balls? _____

122.Of all the things that are rubber how many of them are dolls? _____

123.Of all the things that are rubber how many of them are garden hoses? _____

124.Of all the things that are rubber how many of them are latex gloves? _____

125.Of all the things that are rubber how many of them are rain boots? _____

126. Of all the things that are rubber how many of them are erasers? _____

127.Of all the things that are rubber how many of them are dish gloves? _____

128.Of all the things that are plastic how many of them are Tupperware? _____

129.Of all the things that are plastic how many of them are CD cases? _____

130.Of all the things that are plastic how many of them are cups? _____

131.Of all the things that are plastic how many of them are straws? _____

132.Of all the things that are plastic how many of them are shampoo bottles? _____

133.Of all the things that are plastic how many of them are soda bottles? _____

134.Of all the things that are plastic how many of them are pens? _____

135.Of all the things that are plastic how many of them are shopping bags? _____

136.Of all the things that are plastic how many of them are cassette tapes? _____

137.Of all the things that are plastic how many of them are milk jugs? _____

138.Of all the things that are plastic how many of them are bottles? _____

139.Of all the things that are orange how many of them are apricots? _____

140.Of all the things that are orange how many of them are carrots? _____

141.Of all the things that are orange how many of them are construction signs? _____

142.Of all the things that are orange how many of them are oranges? _____

143.Of all the things that are orange how many of them are Sunkist sodas? _____

144.Of all the things that are orange how many of them are road cones? _____

145.Of all the things that are orange how many of them are tigers? _____

146.Of all the things that are orange how many of them are the sun? _____

147.Of all the things that are orange how many of them are pumpkins? _____

148.Of all the things that are juicy how many of them are grapes? _____

149.Of all the things that are juicy how many of them are citrus fruits? _____

150.Of all the things that are juicy how many of them are candy? _____

151.Of all the things that are juicy how many of them are melons? _____

152.Of all the things that are juicy how many of them are oranges? _____

153.Of all the things that are juicy how many of them are strawberries? _____

154.Of all the things that are juicy how many of them are plums? _____

155.Of all the things that are juicy how many of them are steaks? _____

156.Of all the things that are juicy how many of them are pineapples? _____

157.Of all the things that are juicy how many of them are apples? _____

158.Of all the things that are juicy how many of them are peaches? _____

159.Of all the things that are juicy how many of them are grapefruits? _____

160.Of all the things that are glass how many of them are drinking glasses? _____

161.Of all the things that are glass how many of them are TV screens? _____

162.Of all the things that are glass how many of them are windows? _____

163.Of all the things that are glass how many of them are mirrors? _____

164.Of all the things that are glass how many of them are vases? _____

165.Of all the things that are glass how many of them are bowls? _____

166.Of all the things that are glass how many of them are wine glasses? _____

167.Of all the things that are glass how many of them are greenhouses? _____

168.Of all the things that are glass how many of them are bottles? _____

169.Of all the things that are glass how many of them are cups? _____

170.Of all the things that are glass how many of them are light bulbs? _____

171.Of all the things that are glass how many of them are windshields? _____

172.Of all the things that store things how many of them are Tupperware? _____

173.Of all the things that store things how many of them are boxes? _____

174.Of all the things that store things how many of them are bags? _____

175.Of all the things that store things how many of them are closets? _____

176.Of all the things that store things how many of them are crates? _____

177.Of all the things that store things how many of them are dressers? _____

178.Of all the things that store things how many of them are cabinets? _____

179.Of all the things that store things how many of them are attics? _____

180.Of all the things that store things how many of them are garages? _____

181.Of all the things that store things how many of them are trunks? _____

182.Of all the things that store things how many of them are drawers? _____

183.Of all the things that store things how many of them are suitcases? _____

184.Of all the things that store things how many of them are pantries? _____

185.Of all the things that store things how many of them are cellars? _____

186.Of all the things that store things how many of them are chests? _____

187.Of all the things that store things how many of them are lockers? _____

188.Of all the things that store things how many of them are folders? _____

189.Of all the things that store things how many of them are computer files? _____

190.Of all the things that store things how many of them are desks? _____

191.Of all the things that store things how many of them are shelves? _____

192.Of all the things that store things how many of them are refrigerators? _____

193.Of all the things that store things how many of them are time capsules? _____

194.Of all the things that store things how many of them are safes? _____

195.Of all the things that store things how many of them are sheds? _____

196.Of all the things that store things how many of them are banks? _____

197.Of all the things that are grown on trees how many of them are fruit? _____

198.Of all the things that are grown on trees how many of them are apples? _____

199.Of all the things that are grown on trees how many of them are oranges? _____

200.Of all the things that are grown on trees how many of them are bananas? _____

201.Of all the things that are grown on trees how many of them are leaves? _____

202.Of all the things that are grown on trees how many of them are bark? _____

203.Of all the things that are grown on trees how many of them are flowers? _____

204.Of all the things that are grown on trees how many of them are plums? _____

205.Of all the things that are grown on trees how many of them are pears? _____

206.Of all the things that are grown on trees how many of them are lemons? _____

207.Of all the things that are grown on trees how many of them are limes? _____

208.Of all the things that are grown on trees how many of them are grapefruits? _____

209.Of all the things that are grown on trees how many of them are funguses? _____

210.Of all the things that are grown on trees how many of them are peaches? _____

211.Of all the things that are grown on trees how many of them are branches? _____

212.Of all the things that are grown on trees how many of them are cherries? _____

213.Of all the things that are grown on trees how many of them are pinecones? _____

214.Of all the things that are grown on trees how many of them are nuts? _____

215.Of all the things that have fur how many of them are animals? _____

216.Of all the things that have fur how many of them are dogs? _____

217.Of all the things that have fur how many of them are cats? _____

218.Of all the things that have fur how many of them are bears? _____

219.Of all the things that have fur how many of them are tigers? _____

220.Of all the things that have fur how many of them are lions? _____

221.Of all the things that have fur how many of them are raccoons? _____

222.Of all the things that have fur how many of them are rabbits? _____

223.Of all the things that have fur how many of them are squirrels? _____

224.Of all the things that have fur how many of them are deer? _____

225.Of all the things that have fur how many of them are mammals? _____

226.Of all the things that have fur how many of them are stuffed toys? _____

227.Of all the things that have fur how many of them are gerbils? _____

228.Of all the things that have fur how many of them are hamsters? _____

229.Of all the things that are blue how many of them are skies? _____

230.Of all the things that are blue how many of them are oceans? _____

231.Of all the things that are blue how many of them are water? _____

232.Of all the things that are blue how many of them are blood? _____

233.Of all the things that are blue how many of them are veins? _____

234.Of all the things that are blue how many of them are ink? _____

235.Of all the things that are blue how many of them are blueberries? _____

236.Of all the things that are blue how many of them are jeans? _____

237.Of all the things that are blue how many of them are lakes? _____

238.Of all the things that are blue how many of them are police cars? _____

239.Of all the things that are blue how many of them are baby boy's clothes? _____

240.Of all the things that are blue how many of them are police uniforms? _____

241.Of all the things that are blue how many of them are school uniforms? _____

242.Of all the things that are large how many of them are buildings? _____

243.Of all the things that are large how many of them are universes? _____

244.Of all the things that are large how many of them are elephants? _____

245.Of all the things that are large how many of them are bears? _____

246.Of all the things that are large how many of them are wooly mammoths? _____

247.Of all the things that are large how many of them are warehouses? _____

248.Of all the things that are large how many of them are oceans? _____

249.Of all the things that are large how many of them are office buildings? _____

250.Of all the things that are large how many of them are suns? _____

251.Of all the things that are large how many of them are moons? _____

252.Of all the things that are large how many of them are mountains? _____

253.Of all the things that are large how many of them are rainbows? _____

254.Of all the things that are large how many of them are seas? _____

255.Of all the things that are large how many of them are forests? _____

256.Of all the things that are large how many of them are continents? _____

257.Of all the things that are large how many of them are cities? _____

258.Of all the things that are large how many of them are planets? _____

259.Of all the things that are large how many of them are galaxies? _____

260.Of all the things that are large how many of them are solar systems? _____

261.Of all the things that are large how many of them are whales? _____

262.Of all the things that are large how many of them are giraffes? _____

263.Of all the things that are crunchy how many of them are granola? _____

Set B

264.Of all the things that are crunchy how many of them are candy? _____

265.Of all the things that are crunchy how many of them are nuts? _____

266.Of all the things that are crunchy how many of them are pretzels? _____

267.Of all the things that are crunchy how many of them are crackers? _____

268.Of all the things that are crunchy how many of them are chips? _____

269.Of all the things that are crunchy how many of them are celery? _____

270.Of all the things that are crunchy how many of them are carrots? _____

271.Of all the things that are crunchy how many of them are rice krispies? _____

272.Of all the things that are crunchy how many of them are apples? _____

273.Of all the things that can walk how many of them are men? _____

274.Of all the things that can walk how many of them are dogs? _____

275.Of all the things that can walk how many of them are cats? _____

276.Of all the things that can walk how many of them are animals? _____

277.Of all the things that can walk how many of them are elephants? _____

278.Of all the things that can walk how many of them are birds? _____

279.Of all the things that can walk how many of them are insects? _____

280.Of all the things that can walk how many of them are horses? _____

281.Of all the things that can walk how many of them are cows? _____

282.Of all the things that can walk how many of them are sheep? _____

283.Of all the things that can walk how many of them are donkeys? _____

284.Of all the things that can walk how many of them are camels? _____

285.Of all the things that can walk how many of them are robots? _____

286.Of all the things that can fly how many of them are birds? _____

287.Of all the things that can fly how many of them are airplanes? _____

288.Of all the things that can fly how many of them are rockets? _____

289.Of all the things that can fly how many of them are insects? _____

290.Of all the things that can fly how many of them are kites? _____

291.Of all the things that can fly how many of them are hang gliders? _____

292.Of all the things that can fly how many of them are bees? _____

293.Of all the things that can fly how many of them are butterflies? _____

294.Of all the things that can fly how many of them are flying saucers? _____

295.Of all the things that can fly how many of them are flies

296.Of all the things that can fly how many of them are space shuttles? _____

297.Of all the things that can fly how many of them are helicopters? _____

298.Of all the things that can fly how many of them are eagles? _____

299.Of all the things that can fly how many of them are hawks? _____

300.Of all the things that can fly how many of them are sparrows? _____

301.Of all the things that can fly how many of them are robins? _____

302.Of all the things that can fly how many of them are jets? _____

303.Of all the things that can fly how many of them are Frisbees? _____

304.Of all the things that are red how many of them are cardinals? _____

305.Of all the things that are red how many of them are lips? _____

306.Of all the things that are red how many of them are strawberries? _____

307.Of all the things that are red how many of them are raspberries? _____

308.Of all the things that are red how many of them are berries? _____

309.Of all the things that are red how many of them are watermelon? _____

310.Of all the things that are red how many of them are apples? _____

311.Of all the things that are red how many of them are tomatoes? _____

312.Of all the things that are red how many of them are blood? _____

313.Of all the things that are red how many of them are roses? _____

314.Of all the things that are red how many of them are stop signs? _____

315.Of all the things that are red how many of them are cherries? _____

316.Of all the things that are red how many of them are hearts? _____

317.Of all the things that are red how many of them are fire engines? _____

318.Of all the things that are red how many of them are peppers? _____

319.Of all the things that are red how many of them are cardinals? _____

320.Of all the things that can swim how many of them are people? _____

321.Of all the things that can swim how many of them are fish? _____

322.Of all the things that can swim how many of them are sharks? _____

323.Of all the things that can swim how many of them are turtles? _____

324.Of all the things that can swim how many of them are eels? _____

325.Of all the things that can swim how many of them are ducks? _____

326.Of all the things that can swim how many of them are swans? _____

327.Of all the things that can swim how many of them are dolphins? _____

328.Of all the things that can swim how many of them are whales? _____

329.Of all the things that can swim how many of them are penguins? _____

330.Of all the things that have tails how many of them are animals? _____

331.Of all the things that have tails how many of them are donkeys? _____

332.Of all the things that have tails how many of them are horses? _____

333.Of all the things that have tails how many of them are birds? _____

334.Of all the things that have tails how many of them are whales? _____

335.Of all the things that have tails how many of them are cats? _____

336.Of all the things that have tails how many of them are elephants? _____

337.Of all the things that have tails how many of them are rabbits? _____

338.Of all the things that have tails how many of them are deer? _____

339.Of all the things that have tails how many of them are rats? _____

340.Of all the things that have tails how many of them are mice? _____

341.Of all the things that have tails how many of them are dogs? _____

342.Of all the things that have tails how many of them are lizards? _____

343.Of all the things that have tails how many of them are lions? _____

344.Of all the things that have tails how many of them are pigs? _____

345.Of all the things that have tails how many of them are cows? _____

346.Of all the things that have tails how many of them are kangaroo? _____

347.Of all the things that have tails how many of them are monkeys? _____

348.Of all the things that have tails how many of them are foxes? _____

349.Of all the things that have tails how many of them are kites? _____

350.Of all the things that are alive how many of them are humans? _____

351.Of all the things that are alive how many of them are animals? _____

352.Of all the things that are alive how many of them are plants? _____

353.Of all the things that are alive how many of them are frogs? _____

354.Of all the things that are alive how many of them are bugs? _____

355.Of all the things that are alive how many of them are rabbits? _____

356.Of all the things that are alive how many of them are worms? _____

357.Of all the things that are alive how many of them are bears? _____

358.Of all the things that are alive how many of them are dogs? _____

359.Of all the things that are alive how many of them are cats? _____

360.Of all the things that are alive how many of them are fish? _____

361.Of all the things that are alive how many of them are horses? _____

362.Of all the things that are alive how many of them are ants? _____

363.Of all the things that are alive how many of them are flies? _____

364.Of all the things that are alive how many of them are grass? _____

365.Of all the things that are alive how many of them are flowers? _____

366.Of all the things that are alive how many of them are organisms? _____

367.Of all the things that are alive how many of them are bacteria? _____

368.Of all the things that are alive how many of them are mammals? _____

369.Of all the things that are alive how many of them are fungi? _____

370.Of all the things that are alive how many of them are birds? _____

371.Of all the things that are alive how many of them are viruses? _____

372.Of all the things that are edible how many of them are food? _____

373.Of all the things that are edible how many of them are candy? _____

374.Of all the things that are edible how many of them are vegetables? _____

375.Of all the things that are edible how many of them are fruit? _____

376.Of all the things that are edible how many of them are meat? _____

377.Of all the things that are edible how many of them are cereals? _____

378.Of all the things that are edible how many of them are cookies? _____

379.Of all the things that are edible how many of them are chicken? _____

380.Of all the things that are edible how many of them are hamburgers? _____

381.Of all the things that are edible how many of them are bananas? _____

382.Of all the things that are edible how many of them are apples? _____

383.Of all the things that are edible how many of them are oranges? _____

384.Of all the things that are edible how many of them are carrots? _____

385.Of all the things that are edible how many of them are rice? _____

386.Of all the things that are edible how many of them are noodles? _____

387.Of all the things that are edible how many of them are ice cubes? _____

388.Of all the things that are edible how many of them are fish? _____

389.Of all the things that are edible how many of them are cheese? _____

390.Of all the things that are leather how many of them are pocketbooks? _____

391.Of all the things that are leather how many of them are coats? _____

392.Of all the things that are leather how many of them are saddles? _____

393.Of all the things that are leather how many of them are boots? _____

394.Of all the things that are leather how many of them are watchbands? _____

395.Of all the things that are leather how many of them are belts? _____

396.Of all the things that are leather how many of them are couches? _____

397.Of all the things that are leather how many of them are car interiors? _____

398.Of all the things that are leather how many of them are shoes? _____

399.Of all the things that are leather how many of them are wallets? _____

400.Of all the things that are leather how many of them are briefcases? _____

401.Of all the things that have a handle how many of them are cups? _____

402.Of all the things that have a handle how many of them are mugs? _____

403.Of all the things that have a handle how many of them are pots? _____

404.Of all the things that have a handle how many of them are pocketbooks? _____

405.Of all the things that have a handle how many of them are baskets? _____

406.Of all the things that have a handle how many of them are car doors? _____

407.Of all the things that have a handle how many of them are lunch boxes? _____

408.Of all the things that have a handle how many of them are toolboxes? _____

409.Of all the things that have a handle how many of them are briefcases? _____

410.Of all the things that have a handle how many of them are umbrellas? _____

411.Of all the things that have a handle how many of them are shopping bags? _____

412.Of all the things that have a handle how many of them are pans? _____

413.Of all the things that are sticky how many of them are glue? _____

414.Of all the things that are sticky how many of them are tape? _____

415.Of all the things that are sticky how many of them are bubble gum? _____

416.Of all the things that are sticky how many of them are tar? _____

417.Of all the things that are sticky how many of them are honey? _____

418.Of all the things that are sticky how many of them are syrup? _____

419.Of all the things that are sticky how many of them are molasses? _____

420.Of all the things that are sticky how many of them are candy? _____

421.Of all the things that are sticky how many of them are lollipops? _____

422.Of all the things that are sticky how many of them are scotch-tape? _____

423.Of all the things that are sticky how many of them are packing tape? _____

424.Of all the things that are sticky how many of them are adhesives? _____

425.Of all the things that are sticky how many of them are band-aids? _____

426.Of all the things that are sticky how many of them are rubber cement? _____

427.Of all the things that are sticky how many of them are stickers? _____

428.Of all the things that are sticky how many of them are jelly? _____

429.Of all the things that are sticky how many of them are jam? _____

430.Of all the things that are sticky how many of them are peanut butter? _____

431.Of all the things that are smelly how many of them are garbage? _____

432.Of all the things that are smelly how many of them are manure? _____

433.Of all the things that are smelly how many of them are skunk? _____

434.Of all the things that are smelly how many of them are feet? _____

435.Of all the things that are smelly how many of them are ammonia? _____

436.Of all the things that are smelly how many of them are bleach? _____

437.Of all the things that are smelly how many of them are fish? _____

438.Of all the things that are smelly how many of them are rotten eggs? _____

439.Of all the things that are smelly how many of them are gym socks? _____

440.Of all the things that are smelly how many of them are public bathrooms? _____

441.Of all the things that are smelly how many of them are spoiled milk? _____

442.Of all the things that are smelly how many of them are garlic? _____

443.Of all the things that are smelly how many of them are onions? _____

444.Of all the things that are smelly how many of them are sulfur? _____

445.Of all the things that are smelly how many of them are body order? _____

446.Of all the things that are smelly how many of them are halitosis? _____

447.Of all the things that are liquid how many of them are water? _____

448.Of all the things that are liquid how many of them are juice? _____

449.Of all the things that are liquid how many of them are soda? _____

450.Of all the things that are liquid how many of them are beer? _____

451.Of all the things that are liquid how many of them are wine? _____

452.Of all the things that are liquid how many of them are alcohol? _____

453.Of all the things that are liquid how many of them are blood? _____

454.Of all the things that are liquid how many of them are rain? _____

455.Of all the things that are liquid how many of them are milk? _____

456.Of all the things that are liquid how many of them are oil? _____

457.Of all the things that are liquid how many of them are tears? _____

458.Of all the things that are liquid how many of them are soup? _____

459.Of all the things that are liquid how many of them are pools? _____

460.Of all the things that are liquid how many of them are oceans? _____

461.Of all the things that are hot how many of them are suns? _____

462.Of all the things that are hot how many of them are fire? _____

463.Of all the things that are hot how many of them are ovens? _____

464.Of all the things that are hot how many of them are stovetops? _____

465.Of all the things that are hot how many of them are candles? _____

466.Of all the things that are hot how many of them are fireplaces? _____

467.Of all the things that are hot how many of them are heaters? _____

468.Of all the things that are hot how many of them are summers? _____

469.Of all the things that are hot how many of them are cayenne peppers? _____

470.Of all the things that are hot how many of them are coffee? _____

471.Of all the things that are hot how many of them are tea? _____

472.Of all the things that are hot how many of them are cinnamon? _____

473.Of all the things that are hot how many of them are jalapenos? _____

474.Of all the things that are hot how many of them are chipolte peppers? _____

475.Of all the things that are hot how many of them are salsa? _____

476.Of all the things that are hot how many of them are toaster ovens? _____

477.Of all the things that are hot how many of them are boiling water? _____

478.Of all the things that are hot how many of them are steam? _____

479.Of all the things that are hot how many of them are chili peppers? _____

480.Of all the things that are sweet how many of them are candy? _____

481.Of all the things that are sweet how many of them are fruit? _____

482.Of all the things that are sweet how many of them are cake? _____

483.Of all the things that are sweet how many of them are cookies? _____

484.Of all the things that are sweet how many of them are pies? _____

485.Of all the things that are sweet how many of them are ice cream? _____

486.Of all the things that are sweet how many of them are Popsicles? _____

487.Of all the things that are sweet how many of them are juices? _____

488.Of all the things that are sweet how many of them are sodas? _____

489.Of all the things that are sweet how many of them are honey? _____

490.Of all the things that are sweet how many of them are chocolate? _____

491.Of all the things that are sweet how many of them are apples? _____

492.Of all the things that are sweet how many of them are caramel? _____

493.Of all the things that are sweet how many of them are cherries? _____

494.Of all the things that are sweet how many of them are pastries? _____

495.Of all the things that are sweet how many of them are cotton candy? _____

496.Of all the things that are sweet how many of them are lemonade? _____

497.Of all the things that are sweet how many of them are lollipops? _____

498.Of all the things that are sweet how many of them are gumdrops? _____

499.Of all the things that are sweet how many of them are dessert? _____

500.Of all the things that are sharp how many of them are knives? _____

501.Of all the things that are sharp how many of them are swords? _____

502.Of all the things that are sharp how many of them are thumbtacks? _____

503.Of all the things that are sharp how many of them are razors? _____

504.Of all the things that are sharp how many of them are scissors? _____

505.Of all the things that are sharp how many of them are blades? _____

506.Of all the things that are sharp how many of them are needles? _____

507.Of all the things that are slimy how many of them are worms? _____

508.Of all the things that are slimy how many of them are mucus? _____

509.Of all the things that are slimy how many of them are snails? _____

510.Of all the things that are slimy how many of them are leeches? _____

511.Of all the things that are slimy how many of them are seaweed? _____

512.Of all the things that are slimy how many of them are jellyfish? _____

513.Of all the things that are slimy how many of them are oysters? _____

514.Of all the things that are slimy how many of them are lotions? _____

515.Of all the things that are slimy how many of them are oils? _____

516.Of all the things that are slimy how many of them are slugs? _____

517.Of all the things that are noisy how many of them are airplanes? _____

518.Of all the things that are noisy how many of them are traffic? _____

519.Of all the things that are noisy how many of them are drums? _____

520.Of all the things that are noisy how many of them are sirens? _____

521.Of all the things that are noisy how many of them are horns? _____

522.Of all the things that are noisy how many of them are cymbals? _____

523.Of all the things that are noisy how many of them are parties? _____

524.Of all the things that are noisy how many of them are concerts? _____

525.Of all the things that are noisy how many of them are clubs? _____

526.Of all the things that are noisy how many of them are drills? _____

Set C

527.Of all the things that are noisy how many of them are jackhammers? _____

528.Of all the things that are noisy how many of them are crying babies? _____

529.Of all the things that are noisy how many of them are construction? _____

530.Of all the things that are noisy how many of them are fireworks? _____

531.Of all the things that are sour how many of them are lemons? _____

532.Of all the things that are sour how many of them are limes? _____

533.Of all the things that are sour how many of them are vinegar? _____

534.Of all the things that are sour how many of them are bad milk? _____

535.Of all the things that are sour how many of them are green apples? _____

536.Of all the things that can hop how many of them are rabbits? _____

537.Of all the things that can hop how many of them are kangaroos? _____

538.Of all the things that can hop how many of them are grasshoppers? _____

539.Of all the things that can hop how many of them are frogs? _____

540.Of all the things that can hop how many of them are toads? _____

541.Of all the things that can hop how many of them are crickets? _____

542.Of all the things that can hop how many of them are Tigger? _____

543.Of all the things that can hop how many of them are fleas? _____

544.Of all the things that have shells how many of them are peanuts? _____

545.Of all the things that have shells how many of them are walnuts? _____

546.Of all the things that have shells how many of them are pecans? _____

547.Of all the things that have shells how many of them are chestnuts? _____

548.Of all the things that have shells how many of them are mollusks? _____

549.Of all the things that have shells how many of them are clams? _____

550.Of all the things that have shells how many of them are snails? _____

551.Of all the things that have shells how many of them are crabs? _____

552.Of all the things that have shells how many of them are shrimps? _____

553.Of all the things that have shells how many of them are scallops? _____

554.Of all the things that have shells how many of them are lobsters? _____

555.Of all the things that have shells how many of them are seeds? _____

556.Of all the things that have shells how many of them are cashews? _____

557.Of all the things that have shells how many of them are pistachios? _____

558.Of all the things that have shells how many of them are turtles? _____

559.Of all the things that have shells how many of them are oysters? _____

560.Of all the things that have shells how many of them are hermit crabs? _____

561.Of all the things that have shells how many of them are M&M's? _____

562.Of all the things that are yellow how many of them are suns? _____

563.Of all the things that are yellow how many of them are lemons? _____

564.Of all the things that are yellow how many of them are highlighters? _____

565.Of all the things that are yellow how many of them are lemonade? _____

566.Of all the things that are yellow how many of them are bananas? _____

567.Of all the things that are yellow how many of them are tennis balls? _____

568.Of all the things that are yellow how many of them are corn? _____

569.Of all the things that are yellow how many of them are yield signs? _____

570.Of all the things that are yellow how many of them are school buses? _____

571.Of all the things that are yellow how many of them are bees? _____

572.Of all the things that are yellow how many of them are cheese? _____

573.Of all the things that are yellow how many of them are taxis? _____

574.Of all the things that are yellow how many of them are Big Bird? _____

575.Of all the things that are yellow how many of them are legal pads? _____

576.Of all the things that are soft how many of them are pillows? _____

577.Of all the things that are soft how many of them are cotton? _____

578.Of all the things that are soft how many of them are skin? _____

579.Of all the things that are soft how many of them are fur? _____

580.Of all the things that are soft how many of them are kittens? _____

581.Of all the things that are soft how many of them are puppies? _____

582.Of all the things that are soft how many of them are silk? _____

583.Of all the things that are soft how many of them are cashmere? _____

584.Of all the things that are soft how many of them are rabbits? _____

585.Of all the things that are soft how many of them are babies? _____

586.Of all the things that are soft how many of them are rose petals? _____

587.Of all the things that are soft how many of them are satin? _____

588.Of all the things that are soft how many of them are velvet? _____

589.Of all the things that are soft how many of them are feathers? _____

590.Of all the things that have seeds how many of them are fruits? _____

591.Of all the things that have seeds how many of them are vegetables? _____

592.Of all the things that have seeds how many of them are trees? _____

593.Of all the things that have seeds how many of them are apples? _____

594.Of all the things that have seeds how many of them are grapes? _____

595.Of all the things that have seeds how many of them are tomatoes? _____

596.Of all the things that have seeds how many of them are pumpkins? _____

597.Of all the things that have seeds how many of them are sunflowers? _____

598.Of all the things that have seeds how many of them are oranges? _____

599.Of all the things that have seeds how many of them are grapefruits? _____

600.Of all the things that have seeds how many of them are watermelon? _____

601.Of all the things that have seeds how many of them are cucumbers? _____

602.Of all the things that are cold how many of them are snow? _____

603.Of all the things that are cold how many of them are freezers? _____

604.Of all the things that are cold how many of them are cellars? _____

605.Of all the things that are cold how many of them are Antarctica? _____

606.Of all the things that are cold how many of them are ice cream? _____

607.Of all the things that are cold how many of them are ice cubes? _____

608.Of all the things that are cold how many of them are Popsicles? _____

609.Of all the things that are cold how many of them are winters? _____

610.Of all the things that are cold how many of them are blizzards? _____

611.Of all the things that are cold how many of them are refrigerators? _____

612.Of all the things that are cold how many of them are air-conditioning? _____

613.Of all the things that are cold how many of them are swimming-pools? _____

614.Of all the things that are cold how many of them are glaciers? _____

615.Of all the things that are cold how many of them are frozen-foods? _____

616.Of all the things that are cold how many of them are icicles? _____

617.Of all the things that have skin how many of them are animals? _____

618.Of all the things that have skin how many of them are people? _____

619.Of all the things that have skin how many of them are grapes? _____

620.Of all the things that have skin how many of them are chickens? _____

621.Of all the things that have skin how many of them are cows? _____

622.Of all the things that have skin how many of them are dogs? _____

623.Of all the things that have skin how many of them are rabbits? _____

624.Of all the things that have skin how many of them are birds? _____

625.Of all the things that have skin how many of them are monkeys? _____

626.Of all the things that have skin how many of them are onions? _____

627.Of all the things that have skin how many of them are garlic? _____

628.Of all the things that have skin how many of them are apples? _____

629.Of all the things that have skin how many of them are tomatoes? _____

630.Of all the things that have skin how many of them are mammals? _____

631.Of all the things that have skin how many of them are reptiles? _____

632.Of all the things that have skin how many of them are snakes? _____

633.Of all the things that have skin how many of them are alligators? _____

634.Of all the things that have skin how many of them are fruits? _____

635.Of all the things that have skin how many of them are vegetables? _____

636.Of all the things that are reflective how many of them are mirrors? _____

637.Of all the things that are reflective how many of them are glass? _____

638.Of all the things that are reflective how many of them are aluminum? _____

639.Of all the things that are reflective how many of them are chrome? _____

640.Of all the things that are reflective how many of them are steel? _____

641.Of all the things that are salty how many of them are potato chips? _____

642.Of all the things that are salty how many of them are pretzels? _____

643.Of all the things that are salty how many of them are nacho chips? _____

644.Of all the things that are salty how many of them are soy sauce? _____

645.Of all the things that are salty how many of them are seawater? _____

646.Of all the things that are salty how many of them are margaritas? _____

647.Of all the things that are salty how many of them are tears? _____

648.Of all the things that are salty how many of them are food? _____

649.Of all the things that are salty how many of them are sweat? _____

650.Of all the things that are salty how many of them are popcorn? _____

651.Of all the things that are salty how many of them are peanuts? _____

652.Of all the things that are salty how many of them are nuts? _____

653.Of all the things that are salty how many of them are crackers? _____

654.Of all the things that are salty how many of them are French fries? _____

655.Of all the things that are salty how many of them are saltines? _____

656.Of all the things that have leaves how many of them are flowers? _____

657.Of all the things that have leaves how many of them are bushes? _____

658.Of all the things that have leaves how many of them are vines? _____

659.Of all the things that have leaves how many of them are plants? _____

660.Of all the things that have leaves how many of them are forests? _____

661.Of all the things that have leaves how many of them are oaks? _____

662.Of all the things that have leaves how many of them are herbs? _____

663.Of all the things that have leaves how many of them are weeds? _____

664.Of all the things that have leaves how many of them are lettuces? _____

665.Of all the things that have leaves how many of them are spinach? _____

666.Of all the things that are ferocious how many of them are bears? _____

667.Of all the things that are ferocious how many of them are lions? _____

668.Of all the things that are ferocious how many of them are tigers? _____

669.Of all the things that are ferocious how many of them are alligators? _____

670.Of all the things that are ferocious how many of them are crocodiles? _____

671.Of all the things that are ferocious how many of them are wild animals? _____

672.Of all the things that are transparent how many of them are glass? _____

673.Of all the things that are transparent how many of them are Plexiglas? _____

674.Of all the things that are transparent how many of them are plastic? _____

675.Of all the things that are transparent how many of them are soda bottles? _____

676.Of all the things that are transparent how many of them are air? _____

677.Of all the things that are transparent how many of them are water? _____

678.Of all the things that are transparent how many of them are oils? _____

679.Of all the things that are transparent how many of them are tears? _____

680.Of all the things that are transparent how many of them are ice? _____

681.Of all the things that are triangular how many of them are yield signs? _____

682.Of all the things that are triangular how many of them are pieces of pie? _____

683.Of all the things that are triangular how many of them are sandwiches? _____

684.Of all the things that are triangular how many of them are slices of pizza? _____

685.Of all the things that are dangerous how many of them are airplanes? _____

686.Of all the things that are dangerous how many of them are wet roads? _____

687.Of all the things that are dangerous how many of them are fire? _____

688.Of all the things that are dangerous how many of them are earthquakes? _____

689.Of all the things that are dangerous how many of them are hurricanes? _____

690.Of all the things that are dangerous how many of them are tornados? _____

691.Of all the things that are dangerous how many of them are robbers? _____

692.Of all the things that are dangerous how many of them are murderers? _____

693.Of all the things that are dangerous how many of them are snakes? _____

694.Of all the things that are dangerous how many of them are cancers? _____

695.Of all the things that are dangerous how many of them are strokes? _____

696.Of all the things that are dangerous how many of them are wild-animals? _____

697.Of all the things that are dangerous how many of them are war? _____

698.Of all the things that are dangerous how many of them are lions? _____

699.Of all the things that are dangerous how many of them are guns? _____

700.Of all the things that are dangerous how many of them are knives? _____

701.Of all the things that are dangerous how many of them are drag racing? _____

702.Of all the things that are dangerous how many of them are scuba diving? _____

703.Of all the things that can roll how many of them are wheels? _____

704.Of all the things that can roll how many of them are balls? _____

705.Of all the things that can roll how many of them are logs? _____

706.Of all the things that can roll how many of them are tires? _____

707.Of all the things that can roll how many of them are snowballs? _____

708.Of all the things that can roll how many of them are pennies? _____

709.Of all the things that are furry how many of them are cats? _____

710.Of all the things that are furry how many of them are dogs? _____

711.Of all the things that are furry how many of them are hamsters? _____

712.Of all the things that are furry how many of them are gerbils? _____

713.Of all the things that are furry how many of them are squirrels? _____

714.Of all the things that are furry how many of them are rabbits? _____

715.Of all the things that are furry how many of them are animals? _____

716.Of all the things that are tall how many of them are trees? _____

717.Of all the things that are tall how many of them are buildings? _____

718.Of all the things that are tall how many of them are ladders? _____

719.Of all the things that are tall how many of them are flagpoles? _____

720.Of all the things that are tall how many of them are towers? _____

721.Of all the things that are tall how many of them are streetlights? _____

722.Of all the things that are tall how many of them are basketball players? _____

723.Of all the things that are tall how many of them are telephone poles? _____

724.Of all the things that are tall how many of them are mountains? _____

725.Of all the things that are green how many of them have leaves? _____

726.Of all the things that are green how many of them are grass? _____

727.Of all the things that are green how many of them are trees? _____

728.Of all the things that are green how many of them are vegetables? _____

729.Of all the things that are green how many of them are broccoli? _____

730.Of all the things that are green how many of them are peas? _____

731.Of all the things that are green how many of them are money? _____

732.Of all the things that are green how many of them are plants? _____

733.Of all the things that are green how many of them are apples? _____

734.Of all the things that are green how many of them are traffic-lights? _____

735.Of all the things that are green how many of them are frogs? _____

736.Of all the things that are green how many of them are lizards? _____

737.Of all the things that are green how many of them are moss? _____

738.Of all the things that are green how many of them are pears? _____

739.Of all the things that are green how many of them are herbs? _____

740.Of all the things that are green how many of them are artificial turf? _____

741.Of all the things that are green how many of them are emeralds? _____

742.Of all the things that are green how many of them are shamrocks? _____

743.Of all the things that are spicy how many of them are Mexican foods? _____

744.Of all the things that are spicy how many of them are Indian foods? _____

745.Of all the things that are spicy how many of them are buffalo wings? _____

746.Of all the things that are spicy how many of them are Cajun food? _____

747.Of all the things that are loud how many of them are construction work? _____

748.Of all the things that are loud how many of them are yelling? _____

749.Of all the things that are loud how many of them are screaming? _____

750.Of all the things that are loud how many of them are crying? _____

751.Of all the things that are loud how many of them are horns? _____

752.Of all the things that are loud how many of them are traffic? _____

753.Of all the things that are loud how many of them are earthquakes? _____

754.Of all the things that are loud how many of them are accidents? _____

755.Of all the things that are loud how many of them are motorcycles? _____

756.Of all the things that are loud how many of them are jackhammers? _____

757.Of all the things that are loud how many of them are airplanes? _____

758.Of all the things that are loud how many of them are concerts? _____

759.Of all the things that are loud how many of them are avalanches? _____

760.Of all the things that are loud how many of them are explosions? _____

761.Of all the things that are loud how many of them are gun-fire? _____

762.Of all the things that are loud how many of them are sirens? _____

763.Of all the things that are loud how many of them are fireworks? _____

764.Of all the things that are loud how many of them are babies crying? _____

765.Of all the things that are loud how many of them are stomping? _____

766.Of all the things that are loud how many of them are thunder? _____

767.Of all the things that are loud how many of them are rockets? _____

768.Of all the things that are extravagant how many of them are first class tickets? _____

769.Of all the things that are extravagant how many of them are jewelry? _____

770.Of all the things that are extravagant how many of them are diamonds? _____

771.Of all the things that are extravagant how many of them are weddings? _____

772.Of all the things that are extravagant how many of them are Broadway plays? _____

773.Of all the things that are extravagant how many of them are palaces? _____

774.Of all the things that are extravagant how many of them are yachts? _____

775.Of all the things that are extravagant how many of them are ball gowns? _____

776.Of all the things that are extravagant how many of them are wedding cakes? _____

777.Of all the things that are extravagant how many of them are fancy wines? _____

778.Of all the things that are spotted how many of them are Dalmatians? _____

779.Of all the things that are spotted how many of them are cows? _____

780.Of all the things that are spotted how many of them are cheetahs? _____

781.Of all the things that are spotted how many of them are leopards? _____

782.Of all the things that are freezing how many of them are winters? _____

783.Of all the things that are freezing how many of them are freezers? _____

784.Of all the things that are freezing how many of them are air conditioning? _____

785.Of all the things that are freezing how many of them are ice? _____

786.Of all the things that are freezing how many of them are snow? _____

787.Of all the things that are freezing how many of them are ice cream? _____

788.Of all the things that are freezing how many of them are the North Pole? _____

789.Of all the things that are freezing how many of them are Popsicles? _____

790.Of all the things that are freezing how many of them are sleet? _____

APPENDIX E

EXPERIMENT 2 MEANS

	Centrality 1	Centrality 2	Salience	Diagnosticity
SCARY				
❖ SNAKE	4.9	4.9	7.0	29.7
MONSTER	6.6	6.1	6.8	27.6
VAMPIRE	7.4	6.9	6.5	21.4
❖ BAT	5.8	4.0	6.1	23.4
❖ SPIDER	5.8	4.7	6.2	31.5
HAUNTED HOUSE	6.7	5.6	7.0	22.9
❖ GHOST	5.8	4.6	7.2	20.1
WITCH	5.4	3.7	5.8	16.1
NIGHTMARE	8.4	7.7	9.0	46.5
FAST				
❖ CAR	2.9	4.3	7.6	35.9
CHEETAH	8.1	7.9	8.7	35.8
PLANE	7.4	7.8	8.0	40.8
MILLISECOND	9.3	8.1	8.9	48.1
LEOPARD	7.3	7.6	7.7	24.7
ROADRUNNER	8.0	8.1	7.6	26.7
❖ SPORTS CAR	8.6	7.0	9.2	44.5
❖ RACE CAR	8.4	7.6	9.4	45.1
TRACK ATHLETES	7.3	6.6	8.2	28.4
HORSE RACE	7.2	7.1	7.3	27.7
CONCORDE	8.2	7.7	7.8	44.7
TRAIN	6.3	5.4	6.5	36.4
SPEED BOAT	7.5	6.8	7.5	41.1
• LIGHT	8.3	8.8	6.3	53.2
POISONOUS				
CYANIDE	8.7	9.0	8.4	48.9
LEAD	7.5	8.1	7.1	36.1
❖ CHEMICALS	5.9	5.3	7.8	61.2
❖ VENOM	8.1	7.3	9.3	59.3
• STRYCHNINE	8.5	8.5	5.9	51.2
• AMMONIA	7.8	8.6	6.4	48.4
BLEACH	7.3	8.8	6.8	49.6
ROACH KILLER	8.2	7.7	7.4	51.2
WEED KILLER	7.7	7.9	6.8	48.0
❖ SPIDER	3.6	3.7	5.8	37.1
GAS	4.5	5.0	6.1	50.3
HOUSEHOLD CLEANER	6.3	5.1	6.2	56.1
❖ BERRY	2.3	2.5	4.8	21.9
HEMLOCK	5.1	5.4	5.0	24.2

	Centrality 1	Centrality 2	Salience	Diagnosticity
ROUND				
❖ CLOCKFACE	5.1	3.9	8.2	31.1
TRAFFIC CIRCLE	7.6	7.1	7.0	28.2
RING	7.7	7.4	8.8	41.5
WHEEL	8.7	9.2	9.1	38.0
❖ GLASSES	5.6	4.2	6.8	36.5
DOME	8.6	7.1	7.0	51.8
PLANET	8.3	8.0	8.3	28.7
MOON	7.9	7.5	7.7	27.5
CD	8.6	8.5	8.1	51.6
RECORD	9.0	8.7	7.9	45.9
EYES	7.3	7.7	6.6	41.9
BALL	7.8	7.4	9.1	61.9
❖ LOLLIPOP	5.6	3.0	7.1	39.5
ORANGE	8.9	7.0	8.3	45.2
• EARTH	9.6	8.9	8.7	29.9
• SUN	9.4	8.1	8.1	25.6
COOKIE	5.8	2.8	7.3	33.5
CLEAR				
❖ GLASS	4.2	3.4	8.6	48.6
❖ WATER	5.5	5.0	8.5	81.0
TEARS	7.9	7.2	6.9	40.2
❖ PLASTIC	3.7	3.1	6.2	40.5
AIR	7.2	5.4	7.7	59.7
❖ CELLOPHANE	6.4	5.1	7.9	36.6
PLEXIGLAS	6.4	6.1	7.7	39.8
❖ WINDOW	6.4	5.5	8.5	60.4
EYEGLASSES	7.2	5.9	7.9	53.2
❖ SARAN WRAP	6.7	5.1	8.2	46.3
BROTH	4.5	3.2	4.8	25.4
CONTACTS	6.1	6.1	7.8	42.8
GRAINY				
BREAD	6.1	4.9	4.9	32.7
WOOD	7.1	6.5	6.0	26.4
CEREAL	7.3	5.1	5.6	33.1
SAND	9.4	8.2	9.1	60.4
DIRT	7.7	7.2	7.4	45.2
GROUT	7.5	6.3	6.0	34.9
SANDPAPER	9.2	8.7	8.1	38.0
SUGAR	8.6	7.5	7.2	38.3
WOODEN				
❖ DESK	5.6	3.0	8.1	36.3

WOODEN cont'	Centrality 1	Centrality 2	Salience	Diagnosticity
❖ CHAIR	3.3	2.1	7.4	39.6
❖ BED	3.2	2.9	6.3	35.3
❖ HOUSE	4.6	3.5	7.5	46.1
❖ SHUTTERS	5.1	3.8	7.7	30.6
❖ PIRATE LEGS	7.1	5.1	8.2	24.1
❖ DOOR	4.8	4.0	8.2	50.3
❖ BIRDHOUSES	6.3	4.0	8.3	35.2
❖ FENCE POSTS	6.8	4.3	8.3	37.7
❖ DRESSERS	6.6	4.0	8.0	41.7
❖ BENCH	5.4	3.0	8.0	40.2
❖ CRATE	3.4	3.1	6.3	34.8
TREE	9.9	8.9	8.6	71.6
❖ BASEBALL BAT	3.6	2.1	8.4	39.7
❖ PUPPET	2.6	1.5	4.6	12.6
❖ BLOCKS	3.3	2.7	7.1	35.4
❖ FLOORS	3.6	2.2	7.1	47.5
❖ CABINETS	6.2	4.1	7.6	52.0
❖ OAR	5.7	5.0	8.1	40.8
LOG CABIN	9.2	8.8	9.4	45.8
❖ PENCILS	4.7	3.6	7.6	38.1
RAFT	3.7	3.6	5.5	16.2
HAVE (HAS) WHEELS				
CAR	8.3	8.5	7.9	64.7
TRUCK	8.4	8.5	8.0	60.4
BICYCLE	8.1	8.7	8.6	53.7
TRICYCLE	8.4	8.7	8.2	43.2
• AIRPLANE	5.8	8.0	5.1	41.3
• VAN	8.5	8.7	7.1	49.7
SKATEBOARD	7.8	8.6	7.3	39.8
SCOOTER	7.9	8.4	7.1	45.2
MOTORCYCLE	8.5	8.8	8.3	51.0
WHEELCHAIR	8.9	9.0	8.7	47.7
❖ OFFICE CHAIR	5.0	4.7	6.8	35.3
WAGON	7.7	8.6	7.3	44.1
WHEELBARROW	7.5	8.1	7.7	44.8
• TRAIN	7.3	8.3	5.2	47.3
UNICYCLE	8.0	7.9	8.5	30.1
• BABY CARRIAGE	8.1	8.7	6.8	46.4
• ROLLERCOASTER	7.2	8.6	5.1	38.7
• GO-CART	7.6	8.8	6.6	33.1
• BUS	8.4	8.9	7.6	48.1
MATCHBOX CAR	7.2	7.4	7.0	40.8
ROLLER SKATES	8.0	8.9	8.5	43.0
ROLLER BLADES	8.1	8.6	8.4	46.7
❖ TOYS	2.7	1.9	4.5	33.9

RUBBER	Centrality 1	Centrality 2	Salience	Diagnosticity
❖ TIRE	7.2	7.1	9.1	51.6
❖ BALL	4.4	3.9	7.2	41.2
❖ DOLL	2.9	2.1	4.2	25.0
GARDEN HOSE	8.6	7.0	6.8	33.4
LATEX GLOVES	8.4	7.7	7.5	42.8
RAIN BOOTS	6.9	6.2	7.6	39.8
ERASER	8.0	6.1	6.9	45.6
DISH GLOVES	8.6	6.9	7.2	39.0
PLASTIC				
TUPPERWARE	9.1	7.7	9.2	52.4
CD CASE	7.4	6.7	7.0	35.7
❖ CUP	3.1	3.5	7.8	40.3
STRAWS	8.8	6.8	8.2	42.1
SHAMPOO BOTTLE	8.4	6.3	8.0	41.4
❖ SODA BOTTLE	5.7	4.8	8.4	42.6
PEN	6.2	5.2	6.4	40.8
❖ SHOPPING BAGS	3.9	3.5	7.9	36.4
CASSETTE TAPES	8.5	8.2	7.0	42.9
MILK JUG	6.6	4.5	7.4	46.3
❖ BOTTLE	4.5	2.2	6.8	47.8
ORANGE				
APRICOT	8.2	6.4	6.4	28.4
CARROT	8.7	7.6	9.0	45.3
CONSTRUCTION SIGN	7.1	5.7	7.8	46.3
ORANGE	8.3	8.0	9.8	66.4
SUNKIST SODA	7.5	7.6	8.8	47.3
ROAD CONE	8.0	6.7	8.6	42.1
TIGER	6.0	5.5	7.2	37.9
SUN	4.9	5.8	6.6	26.1
❖ PUMPKIN	7.3	7.1	9.3	47.8
JUICY				
GRAPE	7.0	5.9	6.4	37.3
CITRUS FRUIT	6.9	6.6	7.6	52.0
❖ CANDY	2.3	2.9	4.5	17.9
MELON	7.4	5.9	7.6	38.2
❖ ORANGE	7.5	6.0	8.4	46.7
STRAWBERRY	6.7	5.4	7.3	41.3
PLUM	7.8	5.8	7.3	35.6
❖ STEAK	4.8	3.9	7.0	35.5
PINEAPPLE	7.3	6.0	7.2	45.6
❖ APPLE	6.0	4.5	6.8	34.4
PEACH	7.1	5.9	7.6	39.8
GRAPEFRUIT	7.4	6.8	7.2	36.6

	Centrality 1	Centrality 2	Salience	Diagnosticity
GLASS				
❖ DRINKING GLASS	5.5	5.7	8.0	46.1
TV SCREEN	9.2	7.1	6.8	54.1
❖ WINDOW	8.2	4.8	8.9	67.1
MIRROR	9.1	7.1	9.0	53.1
❖ VASE	5.6	3.8	8.1	33.3
❖ BOWL	3.5	2.4	6.3	27.3
WINE GLASS	8.2	6.5	9.1	45.8
GREENHOUSE	8.7	6.1	8.2	41.8
❖ BOTTLE	3.6	2.4	7.5	43.6
❖ CUP	2.9	1.8	6.3	28.8
• LIGHT BULB	8.9	8.4	7.2	48.5
WINDSHIELD	8.3	7.4	9.2	47.8
STORE(S) THINGS				
TUPPERWARE	7.3	8.0	8.6	39.4
BOX	7.1	7.5	8.7	52.1
BAG	6.2	7.0	6.8	36.7
CLOSET	8.8	8.8	8.9	51.3
CRATE	8.2	7.2	8.0	39.0
DRESSER	8.9	8.3	8.6	38.4
CABINET	8.7	8.9	8.8	41.9
ATTIC	8.7	7.6	8.7	49.0
GARAGE	8.8	7.9	8.3	44.2
TRUNK	8.5	7.6	8.3	33.0
DRAWERS	8.7	8.1	8.1	38.9
• SUITCASE	7.7	8.3	6.9	33.9
PANTRY	8.8	8.4	8.1	41.1
CELLAR	8.3	7.5	8.5	43.3
CHEST	8.4	7.8	8.6	37.6
LOCKER	8.2	7.9	8.4	39.1
FOLDER	7.6	7.8	8.0	38.5
COMPUTER FILE	8.1	8.3	8.3	43.7
DESK	7.4	6.7	7.6	46.5
SHELF	7.7	7.2	7.9	48.5
❖ REFRIGERATOR	8.7	9.1	8.0	46.6
TIME CAPSULE	8.7	8.8	7.9	26.0
SAFE	8.8	8.5	8.9	38.8
SHED	8.3	8.3	8.5	33.2
• BANK	8.5	8.1	5.8	43.3
GROWS ON TREES				
❖ FRUIT	6.6	4.3	7.4	59.0
APPLE	8.8	8.7	8.2	39.8
ORANGE	8.8	7.8	7.7	39.1
• BANANA	8.3	8.5	6.8	37.2

	Centrality 1	Centrality 2	Salience	Diagnosticity
GROWS ON TREES cont'				
❖ LEAVES	7.7	5.4	9.4	68.4
BARK	9.1	7.3	8.9	60.8
❖ FLOWERS	3.2	2.2	4.6	33.7
• PLUMS	8.2	8.0	5.8	30.5
• PEARS	8.5	8.4	6.9	32.0
• LEMONS	8.4	8.0	6.0	32.4
• LIMES	8.4	7.9	5.7	34.8
GRAPEFRUITS	8.2	7.1	6.2	31.9
FUNGUS	4.5	3.6	4.2	25.6
• PEACHES	8.8	8.4	7.1	29.9
BRANCHES	9.5	6.4	8.9	63.4
• CHERRIES	8.5	7.9	6.4	27.3
PINECONES	8.6	8.3	8.1	27.5
NUTS	6.2	5.4	5.3	25.1
HAVE (HAS) FUR				
❖ ANIMAL	5.3	5.1	8.8	77.6
❖ DOG	7.2	7.0	8.8	40.6
❖ CAT	7.0	6.5	9.0	37.8
BEAR	8.8	8.5	8.6	33.5
TIGER	8.5	7.7	8.0	28.3
LION	8.6	8.5	8.2	31.3
• RACCOON	8.6	8.4	7.4	29.5
RABBIT	8.5	8.4	8.4	30.1
• SQUIRREL	8.4	8.7	7.7	29.4
• DEER	8.0	7.8	6.9	28.2
❖ MAMMAL	4.7	4.1	7.0	60.0
❖ STUFFED TOY	5.9	4.3	7.5	37.1
GERBIL	7.5	7.6	7.5	30.8
HAMSTER	7.2	8.1	7.5	29.4
(IS) BLUE				
❖ SKY	5.6	4.6	9.2	39.6
❖ OCEAN	6.3	4.1	9.0	36.9
❖ WATER	3.7	3.2	8.2	37.1
BLOOD	2.0	3.3	3.3	9.70
VEIN	6.0	6.4	6.3	36.1
❖ INK	2.7	2.1	7.8	34.1
❖ BLUEBERRIES	6.9	6.5	9.4	37.6
❖ JEANS	4.4	2.4	9.0	41.4
❖ LAKES	5.5	3.6	7.4	35.6
❖ POLICE CAR	3.4	2.2	7.2	24.1
❖ BABY BOY'S CLOTHES	4.4	2.2	8.3	29.4

	Centrality 1	Centrality 2	Salience	Diagnosticity
IS BLUE Cont'				
❖ POLICE UNIFORMS	5.9	3.6	8.4	38.0
❖ SCHOOL UNIFORMS	3.9	1.6	5.2	20.5
(IS) LARGE				
BUILDING	4.6	2.6	7.7	39.6
UNIVERSE	8.7	8.3	9.7	31.5
❖ ELEPHANT	7.3	6.3	8.8	32.7
BEAR	6.0	5.8	7.5	25.1
WOOLY MAMMOUTH	8.3	7.3	8.1	18.1
WAREHOUSE	7.4	6.4	7.6	32.2
OCEAN	9.3	8.2	9.4	29.5
OFFICE BUILDINGS	5.9	8.7	7.5	38.8
SUN	8.2	8.2	8.2	22.5
MOON	7.7	7.4	7.3	22.7
❖ MOUNTAINS	7.7	6.6	8.7	33.4
RAINBOWS	7.5	4.5	5.8	19.2
SEAS	8.3	6.4	8.7	29.4
❖ FOREST	7.1	4.7	8.1	31.0
❖ CONTINENT	8.6	6.9	9.1	24.1
❖ CITIES	7.2	4.6	8.5	42.2
PLANET	8.5	7.0	9.0	53.3
GALAXY	9.4	8.4	9.5	30.8
SOLAR SYSTEM	9.4	8.5	9.7	34.7
❖ WHALE	7.6	6.8	9.1	31.8
GIRAFFE	7.2	6.7	7.4	22.7
(IS) CRUNCHY				
❖ GRANOLA	6.9	5.2	7.9	25.3
❖ CANDY	5.0	2.0	5.9	30.7
NUTS	7.8	6.9	7.4	39.8
PRETZELS	7.2	6.6	7.9	38.1
CRACKERS	7.5	7.2	7.5	44.6
CHIPS	8.2	7.5	8.2	47.4
CELERY	8.0	6.7	8.8	37.8
CARROTS	7.8	7.3	8.4	37.3
RICE KRISPIES	7.0	7.1	8.1	37.7
APPLES	6.4	5.9	6.2	37.7
WALKS				
❖ MAN	3.9	3.3	9.1	59.2
DOG	6.4	6.6	8.0	45.8
CAT	6.6	6.7	7.9	45.0
ANIMAL	6.1	5.7	7.5	67.6

WALKS cont'	Centrality 1	Centrality 2	Salience	Diagnosticity
ELEPHANT	7.4	7.2	7.6	36.1
BIRDS	5.5	5.0	4.4	33.1
INSECTS	4.6	4.4	4.4	37.0
HORSE	7.6	7.5	7.9	41.1
COW	7.3	7.2	7.2	41.8
SHEEP	7.5	7.3	7.0	40.0
DONKEY	7.7	7.1	7.4	38.1
CAMEL	7.6	7.3	7.4	36.8
❖ ROBOT	4.4	2.9	5.6	22.2
CAN FLY				
❖ BIRD	6.1	5.6	9.6	67.8
❖ AIRPLANE	8.2	7.3	9.3	53.6
ROCKET	7.5	7.1	8.3	41.0
❖ INSECTS	3.6	3.8	7.5	52.6
KITES	6.1	6.2	7.7	41.0
HANG GLIDERS	6.3	6.9	7.8	39.5
❖ BEE	6.7	6.8	8.4	45.7
BUTTERFLY	7.1	7.1	8.7	45.4
FLYING SAUCER	6.9	7.1	7.6	25.1
FLY	6.8	7.3	8.6	55.8
SPACE SHUTTLE	7.4	8.2	8.4	39.8
HELICOPTER	7.7	7.5	8.9	43.9
EAGLE	7.8	7.9	8.9	42.1
HAWK	7.7	7.7	8.8	43.1
❖ SPARROW	7.0	7.4	8.8	46.5
ROBIN	7.1	7.8	8.8	44.5
JET	7.8	7.5	8.9	40.9
FRISBEE	6.6	7.1	6.8	26.0
❖ CARDINAL	8.2	5.8	8.9	40.7
(IS) RED				
❖ LIPS	6.4	4.7	8.6	38.8
❖ STRAWBERRIES	7.7	6.3	9.1	53.3
❖ RASPBERRIES	6.4	4.3	7.5	40.8
❖ BERRIES	3.6	2.4	6.5	32.0
❖ WATERMELON	5.6	5.5	7.4	42.0
❖ APPLE	3.2	2.6	8.4	45.3
❖ TOMATO	4.9	5.0	9.4	95.3
❖ BLOOD	7.9	6.6	9.8	64.2
❖ ROSES	3.9	3.1	9.1	42.1
❖ STOP SIGNS	7.9	7.9	9.8	58.6
❖ CHERRIES	7.2	6.4	9.4	54.2
❖ HEARTS	7.4	6.1	9.3	62.1
❖ FIRE ENGINES	7.2	5.8	9.6	54.3
❖ PEPPERS	4.1	2.5	7.2	30.0
❖ CARDINALS	7.1	5.9	8.8	41.4

	Centrality 1	Centrality 2	Salience	Diagnosticity
(CAN) SWIM				
❖ PEOPLE	3.9	3.7	6.8	44.4
FISH	9.3	9.4	9.8	74.0
SHARKS	9.2	9.7	9.5	61.1
❖ TURTLE	6.9	6.5	8.5	44.2
• EELS	9.0	9.3	7.9	54.9
DUCKS	7.3	8.5	8.2	56.4
SWANS	7.6	8.6	8.1	49.4
DOLPHIN	9.1	9.6	9.6	60.3
WHALE	8.9	9.6	9.3	57.4
PENGUIN	6.7	7.6	6.7	53.8
HAVE (HAS) A TAIL				
❖ ANIMAL	4.7	4.0	7.4	71.1
DONKEY	6.9	7.4	6.8	48.6
HORSE	7.0	7.6	7.5	51.9
BIRD	6.7	6.3	4.9	31.1
• WHALE	7.9	8.4	5.9	46.0
❖ CAT	6.6	7.1	8.8	57.8
• ELEPHANT	7.8	8.3	5.8	51.9
RABBIT	7.1	7.9	6.2	50.5
DEER	5.9	6.9	5.6	33.4
RAT	7.9	7.2	7.8	49.5
MOUSE	7.6	7.7	8.0	50.1
❖ DOG	5.8	5.3	8.8	49.2
LIZARD	7.4	6.8	7.6	45.5
LION	7.4	8.3	7.2	47.0
PIG	7.1	7.5	7.1	46.0
• COW	7.5	7.6	6.2	43.5
• KANGAROO	7.0	8.1	5.5	38.0
MONKEY	6.5	7.0	6.8	46.7
FOX	7.8	8.2	7.0	43.8
KITE	4.6	4.0	5.5	34.1
(IS) ALIVE				
❖ HUMAN	4.8	6.9	9.2	64.2
❖ ANIMAL	3.6	5.9	9.0	72.2
❖ PLANT	3.3	5.6	7.8	62.0
❖ FROG	2.8	4.7	8.3	41.0
❖ BUG	2.5	3.2	7.8	44.5
❖ RABBIT	3.8	6.0	8.4	45.7
❖ WORM	3.2	3.0	7.5	41.0
❖ BEAR	4.8	6.6	8.7	41.4
❖ DOG	4.0	6.8	8.7	49.0
❖ CAT	3.9	6.4	8.7	47.7

	Centrality 1	Centrality 2	Salience	Diagnosticity
(IS) ALIVE cont'				
❖ FISH	2.8	4.2	8.4	44.0
❖ HORSE	4.7	6.7	8.7	43.3
❖ ANT	2.4	3.2	7.9	44.0
❖ FLY	2.4	3.6	7.8	42.4
❖ GRASS	3.4	3.1	6.7	42.2
❖ FLOWER	3.5	3.2	7.9	42.5
❖ ORGANISM	5.1	5.3	7.5	79.2
BACTERIA	6.3	5.5	6.4	51.7
❖ MAMMAL	3.7	5.8	8.9	68.2
FUNGUS	6.3	5.0	6.0	37.9
❖ BIRD	3.5	5.3	8.7	41.7
VIRUS	6.9	6.0	6.5	36.3
(IS) EDIBLE				
❖ FOOD	4.2	6.0	9.6	91.6
❖ CANDY	5.0	6.1	8.3	55.1
❖ VEGETABLE	5.1	4.8	8.8	54.1
❖ FRUIT	4.6	4.9	8.9	58.5
❖ MEAT	5.1	4.4	8.1	51.3
CEREAL	6.1	13	8.8	49.3
❖ COOKIE	5.6	6.5	8.8	47.9
❖ CHICKEN	5.2	5.0	8.2	48.0
❖ HAMBURGER	5.1	5.1	8.3	44.8
❖ BANANA	5.6	5.8	8.3	43.7
❖ APPLE	5.1	6.2	8.7	45.6
❖ ORANGE	5.8	6.0	8.7	43.5
❖ CARROT	6.0	6.3	8.4	41.9
❖ RICE	5.9	6.8	8.2	44.8
❖ NOODLES	5.7	6.9	8.6	45.2
• ICE CUBE	6.8	7.0	5.4	34.6
❖ FISH	3.9	4.2	7.3	35.8
❖ CHEESE	5.3	5.8	8.2	42.0
(IS) LEATHER				
❖ POCKETBOOK	3.3	1.8	6.6	32.2
❖ COAT	1.6	1.5	6.4	37.3
SADDLE	6.8	6.5	7.6	43.7
❖ BOOT	4.2	3.5	7.1	38.5
❖ WATCHBAND	2.1	2.2	6.2	34.7
❖ BELT	4.7	3.2	8.2	50.4
❖ COUCH	2.0	1.8	6.3	28.8
❖ CAR INTERIOR	2.0	1.4	6.3	31.6
❖ SHOE	2.2	1.7	6.5	45.1
❖ WALLET	3.1	2.2	8.2	46.3
❖ BRIEFCASE	4.4	3.4	6.5	48.5

	Centrality 1	Centrality 2	Salience	Diagnosticity
HAS A HANDLE				
CUP	3.3	3.1	4.9	36.2
MUG	5.9	6.5	7.6	56.3
POT	6.9	6.7	7.4	53.1
POCKETBOOK	4.1	4.5	5.7	54.5
BASKET	5.3	5.5	5.5	52.9
• CAR DOOR	9.1	8.9	6.3	65.1
LUNCH BOX	6.8	7.6	5.8	57.8
TOOLBOX	6.7	7.6	5.6	57.2
BRIEFCASE	6.9	7.5	6.0	58.4
• UMBRELLA	8.4	8.7	5.2	59.8
SHOPPING BAG	5.8	5.0	5.2	60.2
PAN	7.3	7.0	6.3	43.8
(IS) STICKY				
GLUE	8.2	7.9	8.4	56.8
TAPE	8.2	7.6	7.5	55.5
BUBBLE GUM	7.5	8.2	7.8	51.3
• TAR	8.7	8.1	7.1	51.5
• HONEY	9.3	9.0	6.9	51.2
• SYRUP	8.8	8.9	7.2	52.3
• MOLASSES	8.7	8.4	6.9	50.9
CANDY	5.5	6.6	5.1	42.4
• LOLLIPOP	7.1	7.8	5.4	49.9
SCOTCH TAPE	7.4	7.5	6.9	44.1
PACKING TAPE	8.0	8.0	7.0	43.4
ADHESIVE	8.0	7.7	7.1	45.0
BAND-AID	6.7	6.4	5.8	38.6
RUBBER CEMENT	7.5	7.5	6.3	37.4
STICKER	7.1	6.7	6.4	50.2
• JELLY	6.9	7.2	4.3	38.2
• JAM	7.0	7.1	4.3	38.6
• PEANUT BUTTER	7.1	7.0	4.5	36.8
(IS) SMELLY				
❖ GARBAGE	7.0	6.4	8.6	59.3
❖ MANURE	8.8	8.1	9.5	52.2
❖ SKUNKS	8.2	7.8	9.4	51.9
❖ FOOT	4.9	4.1	6.4	40.4
• AMMONIA	8.7	8.2	6.8	37.2
• BLEACH	8.6	7.8	6.5	37.2
FISH	6.8	7.0	7.7	45.3
ROTTEN EGG	9.0	8.9	9.5	56.0
❖ GYM SOCK	7.6	6.8	8.0	44.0
PUBLIC BATHROOM	6.9	6.0	7.6	49.5

	Centrality 1	Centrality 2	Salience	Diagnosticity
(IS) SMELLY Cont'				
SPOILED MILK	9.1	8.5	7.9	47.5
• GARLIC	8.1	7.5	6.6	37.4
ONION	7.5	7.1	6.5	33.7
SULFUR	7.7	8.2	7.1	45.2
BODY ODOR	7.4	6.6	7.9	50.1
• HALITOSIS	8.8	7.4	4.8	34.9
(IS) LIQUID				
❖ WATER	6.8	7.0	9.4	74.5
JUICE	7.3	7.9	7.5	52.7
• SODA	8.8	8.4	7.0	50.4
• BEER	9.3	8.7	7.2	49.8
• WINE	9.3	8.9	7.1	46.3
• ALCOHOL	9.1	8.6	7.2	54.3
BLOOD	7.1	8.2	5.4	52.0
RAIN	6.9	8.2	8.0	57.1
MILK	6.8	7.9	6.4	42.1
• OIL	8.1	8.6	5.4	42.1
• TEAR	8.6	8.9	5.6	53.0
• SOUP	7.7	7.9	5.7	50.3
• POOL	8.2	8.3	7.8	59.9
• OCEAN	9.0	9.5	8.0	75.9
(IS) HOT				
SUN	8.0	9.1	9.1	66.5
FIRE	8.6	9.4	9.4	70.4
❖ OVEN	3.5	6.1	7.9	41.4
❖ STOVE	2.9	5.6	7.5	42.0
CANDLE	3.4	5.9	5.9	35.5
❖ FIREPLACE	3.9	6.1	7.2	42.0
❖ HEATER	4.6	5.3	7.6	46.2
❖ SUMMER	4.1	4.4	7.8	41.9
CAYENNE PEPPER	7.1	7.4	7.7	41.7
❖ COFFEE	2.8	3.0	6.9	29.2
❖ TEA	3.3	3.0	6.7	25.4
CINNAMON	2.3	3.1	3.1	13.0
JALAPENO	6.2	7.6	8.7	45.4
CHIPOLTE	7.0	7.5	7.0	35.9
SALSA	3.8	3.4	6.2	26.7
TOASTER	3.8	3.9	5.6	40.0
BOILING WATER	9.1	9.2	9.3	58.3
STEAM	7.7	7.6	7.5	40.9
CHILI PEPPER	6.9	7.6	8.1	45.3

	Centrality 1	Centrality 2	Salience	Diagnosticity
(IS) SWEET				
❖ CANDY	6.3	4.1	8.8	52.6
❖ FRUIT	4.3	3.5	5.6	41.6
❖ CAKE	6.2	4.9	7.9	44.8
❖ COOKIE	6.5	4.9	7.6	44.5
❖ PIE	6.9	4.6	7.5	36.1
ICE CREAM	6.9	5.6	7.4	47.9
POPSICLE	7.0	5.0	6.4	38.6
JUICE	5.3	4.1	6.0	38.5
SODA	7.0	4.9	6.4	40.9
HONEY	7.9	8.6	7.9	46.7
CHOCOLATE	6.0	6.3	7.9	52.7
APPLE	5.3	3.8	4.4	21.9
CARAMEL	7.1	6.7	6.8	39.2
CHERRY	6.3	4.1	5.2	28.2
PASTRY	6.9	5.4	7.1	46.3
COTTON CANDY	8.1	7.4	8.4	49.1
LEMONADE	5.4	4.9	4.4	41.0
LOLLIPOP	6.8	5.3	7.5	44.4
GUMDROP	7.1	5.4	7.1	39.9
DESSERT	6.4	4.7	7.8	59.1
(IS) SHARP				
❖ KNIFE	5.9	5.0	9.5	60.1
❖ SWORD	6.4	5.7	9.4	46.0
THUMBTACK	6.2	6.3	7.2	48.1
❖ RAZOR	7.1	5.3	9.2	58.9
❖ SCISSORS	5.8	5.0	7.3	51.9
❖ BLADES	6.6	6.0	9.0	62.5
NEEDLE	6.9	6.7	7.9	61.9
(IS) SLIMY				
WORM	7.4	5.6	6.4	42.8
• MUCUS	8.9	8.1	7.5	54.4
• SNAIL	7.6	7.4	6.6	39.7
• LEECH	7.9	7.7	6.3	45.9
SEAWEED	7.0	7.7	7.1	43.2
• JELLYFISH	8.1	8.1	6.5	45.9
• OYSTER	7.7	7.4	5.6	39.2
• LOTION	7.4	6.3	4.5	36.2
• OIL	7.8	7.8	5.2	42.2
SLUG	8.1	7.3	7.0	39.0

	Centrality 1	Centrality 2	Salience	Diagnosticity
(IS) NOISY				
AIRPLANE	6.7	7.2	5.9	45.4
TRAFFIC	4.9	6.3	6.7	47.3
DRUM	6.5	7.3	6.5	35.9
SIREN	7.0	7.8	8.0	47.3
HORN	5.8	7.5	6.8	34.3
CYMBAL	5.2	7.3	5.7	27.3
PARTY	5.7	5.2	6.1	48.7
CONCERT	7.2	7.2	7.1	48.2
CLUB	7.5	7.5	7.1	42.0
DRILL	7.6	7.1	7.6	32.6
JACKHAMMER	7.9	7.8	8.4	36.9
CRYING BABY	8.1	7.3	5.9	34.6
CONSTRUCTION	7.8	7.2	7.9	41.6
FIREWORKS	7.9	7.8	7.9	29.9
(IS) SOUR				
LEMON	8.5	7.9	8.6	43.7
LIME	8.1	8.2	8.1	37.5
VINEGAR	8.2	8.3	7.4	37.1
BAD MILK	8.1	8.4	7.0	34.9
GREEN APPLE	5.8	6.3	5.3	31.8
(DOES) HOP				
❖ RABBIT	6.8	7.4	8.4	49.3
❖ KANGAROO	7.5	8.0	9.3	42.7
❖ GRASSHOPPER	7.7	7.9	9.0	43.0
❖ FROG	7.0	7.9	8.7	42.2
TOAD	6.8	7.6	7.4	34.6
CRICKET	7.2	7.6	6.6	33.2
TIGGER	6.2	6.0	7.0	28.7
• FLEA	7.2	5.5	4.7	26.0
HAVE (HAS) A SHELL				
PEANUT	2.8	3.9	6.3	32.4
WALNUT	5.2	4.7	6.6	35.7
PECAN	4.1	4.7	5.4	3600
CHESTNUT	5.3	4.7	6.1	32.6
MOLLUSK	6.4	5.5	6.2	35.6
CLAM	6.3	6.5	7.4	38.8
SNAIL	6.1	7.0	8.0	35.8
CRAB	7.3	7.2	7.3	37.8
SHRIMP	4.3	5.8	5.2	34.4
SCALLOP	3.8	5.9	3.9	31.6
LOBSTER	6.7	7.6	6.9	40.9

	Centrality 1	Centrality 2	Salience	Diagnosticity
HAVE (HAS) A SHELL cont'				
SEED	3.8	4.1	4.2	25.0
CASHEW	3.4	4.1	4.2	21.8
❖ PISTACHIO	4.8	5.0	6.8	33.8
TURTLE	8.6	8.9	8.8	46.0
OYSTER	6.7	6.6	7.2	35.5
HERMIT CRAB	7.0	6.8	7.6	35.6
• M & M	7.3	7.0	4.2	39.0
(IS) YELLOW				
❖ SUN	6.4	5.3	8.2	33.9
❖ LEMON	7.3	6.3	9.4	48.1
❖ HIGHLIGHTER	3.4	2.2	7.4	24.9
❖ LEMONADE	3.3	3.7	8.5	37.7
❖ BANANA	4.9	4.2	8.7	45.4
TENNIS BALL	4.1	3.6	5.5	31.4
❖ CORN	4.8	4.9	7.0	37.6
YIELD SIGN	6.3	5.4	4.9	41.0
❖ SCHOOL BUS	6.3	5.1	8.6	46.1
BEE	6.1	5.0	6.8	37.3
❖ CHEESE	2.9	3.5	5.5	30.9
❖ TAXI	5.0	4.0	7.7	37.8
❖ BIG BIRD	6.3	4.6	7.9	28.0
LEGAL PAD	5.4	4.3	6.1	34.6
(IS) SOFT				
❖ PILLOW	5.2	4.7	7.6	41.5
COTTON	6.7	6.0	6.6	40.2
SKIN	4.6	3.8	5.2	30.5
FUR	6.7	5.8	7.1	46.5
KITTEN	8.1	7.1	7.8	42.0
PUPPY	7.2	7.0	7.5	42.6
SILK	9.1	7.8	7.6	32.0
CASHMERE	8.3	7.5	8.3	32.0
RABBIT	8.2	7.2	7.1	39.5
BABY	7.6	7.8	8.2	43.5
ROSE PETAL	7.9	7.1	6.2	32.9
SATIN	8.3	7.8	7.5	31.3
VELVET	8.6	7.6	7.4	32.8
FEATHER	7.7	6.2	5.6	34.7
HAS SEEDS				
FRUIT	5.2	4.3	6.1	53.9
VEGETABLE	5.0	3.4	4.6	41.1
TREE	5.2	5.0	4.6	51.1

	Centrality 1	Centrality 2	Salience	Diagnosticity
HAS SEEDS cont'				
APPLE	7.5	6.0	5.3	49.3
GRAPE	4.5	4.3	4.6	31.0
TOMATO	7.8	6.5	9.5	43.3
PUMPKIN	8.3	7.6	7.5	47.0
SUNFLOWER	7.8	7.9	8.2	47.8
ORANGE	6.1	5.2	5.2	36.7
GRAPEFRUIT	6.2	6.0	4.8	31.7
❖ WATERMELON	5.2	5.4	7.7	46.0
• CUCUMBER	6.3	7.0	4.7	40.9
(IS) COLD				
❖ SNOW	8.2	8.2	9.1	59.6
❖ FREEZER	7.5	7.7	9.0	53.7
CELLAR	4.4	4.6	5.7	33.9
❖ ANTARCTICA	8.5	8.7	9.2	52.0
ICE CREAM	8.3	7.6	8.6	46.8
ICE CUBE	8.9	8.3	9.0	51.5
POPSICLE	7.7	7.8	7.4	47.4
❖ WINTER	4.6	5.4	9.2	58.0
BLIZZARD	7.9	9.0	9.6	57.1
❖ REFRIGERATOR	5.4	5.8	7.3	49.9
AIR-CONDITIONING	5.8	5.6	6.5	47.0
SWIMMING POOL	3.7	3.9	4.9	34.4
GLACIER	8.9	9.2	8.0	55.7
FROZEN FOOD	7.9	7.0	7.8	47.0
ICICLE	9.0	8.4	8.4	47.5
HAVE (HAS) SKIN				
• ANIMAL	7.7	9.2	4.5	72.8
• PERSON	9.2	9.7	6.9	68.8
• GRAPE	6.5	7.2	3.6	46.8
• CHICKEN	6.1	7.2	4.1	39.6
• COW	7.2	8.3	3.6	43.7
• DOG	8.3	9.0	3.3	46.0
• RABBIT	8.1	8.7	3.6	40.3
• BIRD	8.3	8.5	3.4	38.9
• MONKEY	9.1	9.0	3.8	43.6
• ONION	4.7	5.7	3.2	33.1
• GARLIC	4.2	5.2	2.8	32.8
APPLE	3.9	5.4	4.1	48.3
• TOMATO	6.7	6.5	3.2	46.3
• MAMMAL	8.5	9.2	4.9	64.5
• REPTILE	7.3	8.3	5.4	52.0
• SNAKE	8.5	8.1	5.9	49.5

	Centrality 1	Centrality 2	Salience	Diagnosticity
HAVE (HAS) SKIN cont'				
• ALLIGATOR	9.0	8.8	5.5	50.4
• FRUIT	5.6	5.7	3.6	48.3
• VEGETABLE	5.2	5.4	3.4	42.1
(IS) REFLECTIVE				
❖ MIRROR	8.9	7.8	9.7	74.3
GLASS	4.9	4.9	6.0	49.3
ALUMINUM	5.6	5.4	4.5	41.3
CHROME	5.8	5.1	4.9	35.7
STEEL	4.5	4.7	4.5	30.5
(IS) SALTY				
❖ POTATO CHIP	6.1	4.1	7.1	46.8
❖ PRETZEL	4.5	4.1	7.5	42.0
NACHO CHIP	5.6	4.5	5.5	39.5
SOY SAUCE	5.8	5.8	6.4	41.3
SEAWATER	7.9	7.8	8.5	64.9
MARGARITA	4.9	4.8	5.7	36.2
TEAR	6.8	6.5	5.5	49.7
❖ FOOD	2.2	1.8	4.0	46.8
SWEAT	6.8	6.0	4.5	44.0
POPCORN	4.1	3.5	5.2	40.3
❖ PEANUT	4.7	3.0	5.3	38.3
❖ NUT	4.3	2.9	5.4	40.6
CRACKER	4.1	2.8	5.1	37.5
❖ FRENCH FRY	4.5	3.6	6.3	45.7
SALTINE	6.5	5.4	7.3	41.6
HAVE (HAS) LEAVES				
FLOWER	4.1	4.5	5.5	48.3
BUSH	6.3	5.3	6.8	40.9
VINE	6.3	5.1	6.4	44.8
❖ PLANT	6.7	5.6	8.1	63.7
FOREST	8.3	7.9	7.2	57.0
OAK	5.9	6.2	6.4	45.9
HERB	6.7	5.5	5.7	37.8
WEED	5.5	5.5	5.5	39.1
• LETTUCE	9.2	8.0	6.4	50.1
SPINACH	8.7	7.6	6.8	41.6
(IS) FEROCIOUS				
BEAR	5.9	6.8	7.6	45.8
❖ LION	6.3	6.8	8.3	47.3
❖ TIGER	5.9	6.7	8.1	49.7
ALLIGATOR	6.4	7.4	8.4	47.3

	Centrality 1	Centrality 2	Salience	Diagnosticity
(IS) FEROCIOUS cont'				
CROCODILE	6.7	7.6	8.4	47.6
WILD ANIMAL	5.6	5.8	6.2	67.0
(IS) TRANSPARENT				
❖ GLASS	6.6	4.8	8.9	53.1
PLEXIGLAS	7.2	4.9	6.5	53.7
❖ PLASTIC	3.9	3.7	5.4	29.9
SODA BOTTLE	5.6	3.7	5.7	29.1
AIR	7.7	7.6	7.4	74.2
WATER	5.1	6.1	6.7	54.5
OIL	4.2	6.9	3.8	22.0
❖ TEAR	8.8	7.0	5.5	42.8
ICE	5.9	5.6	5.1	35.1
(IS) TRIANGULAR				
YIELD SIGN	8.0	6.7	5.8	41.7
PIECE OF PIE	6.1	4.1	6.6	38.6
SANDWICH	2.2	2.4	3.3	22.9
❖ SLICE OF PIZZA	4.3	2.7	6.9	46.1
(IS) DANGEROUS				
AIRPLANE	5.3	5.0	5.3	28.2
WET ROAD	5.8	6.0	6.5	60.5
FIRE	6.1	7.3	7.5	53.9
EARTHQUAKE	7.6	7.4	8.0	44.1
TORNADO	8.3	8.8	7.7	48.5
ROBBER	8.0	6.8	7.6	49.3
❖ MURDERER	9.1	8.3	9.7	57.8
SNAKE	6.1	5.3	5.9	34.8
CANCER	8.6	8.0	7.7	58.1
• STROKE	9.0	8.0	7.1	50.6
WILD ANIMAL	6.3	6.6	6.3	39.1
WAR	9.6	9.1	9.6	63.9
LION	6.7	6.9	7.7	39.4
❖ GUN	7.6	8.2	9.1	67.9
❖ KNIFE	6.0	6.4	7.9	50.7
DRAG RACING	7.4	7.0	7.0	37.8
SCUBA DIVING	4.2	5.4	4.4	27.8
HURRICANE	7.7	7.8	7.1	45.0
(DOES) ROLL				
❖ WHEEL	6.0	7.2	8.7	71.0
BALL	7.4	7.3	8.6	65.6
LOG	5.0	6.1	6.7	39.4
TIRE	6.9	6.5	8.2	60.0

	Centrality 1	Centrality 2	Salience	Diagnosticity
(DOES) ROLL cont'				
SNOWBALL	5.6	6.7	5.1	32.7
PENNY	6.1	6.0	4.6	36.0
(IS) FURRY				
CAT	5.6	5.4	7.8	49.9
DOG	5.3	5.1	6.9	48.9
HAMSTER	7.3	7.2	6.8	42.5
GERBIL	7.5	7.4	6.5	41.8
SQUIRREL	7.6	7.4	6.1	45.8
RABBIT	7.4	7.3	7.8	46.4
ANIMAL	3.6	4.0	7.2	77.5
(IS) TALL				
❖ TREE	3.4	3.0	6.4	47.7
❖ BUILDING	3.9	3.2	7.1	50.6
❖ LADDER	3.2	3.0	6.0	29.5
❖ FLAGPOLE	5.9	4.7	6.9	40.0
❖ TOWER	6.5	6.9	9.0	51.8
STREETLIGHT	5.6	5.1	4.7	38.9
❖ BASKETBALL PLAYER	4.9	4.0	7.6	36.7
TELEPHONE POLE	7.6	6.2	6.3	40.9
MOUNTAIN	6.7	6.7	7.6	57.7
(IS) GREEN				
❖ LEAVES	2.8	2.6	7.9	54.7
❖ GRASS	4.2	3.9	9.1	55.7
❖ TREE	3.5	3.0	7.3	50.4
❖ VEGETABLE	3.4	2.0	6.6	45.5
BROCCOLI	7.4	6.3	9.1	50.7
❖ PEA	6.9	5.8	8.0	50.8
❖ MONEY	5.0	3.7	8.1	48.4
❖ PLANT	4.9	3.0	8.3	61.3
❖ APPLE	2.2	2.1	5.0	29.4
❖ TRAFFIC LIGHT	2.9	3.3	6.1	36.3
❖ FROG	3.7	3.8	7.2	34.4
LIZARD	4.6	3.7	5.7	27.0
MOSS	5.8	4.8	6.7	35.7
PEAR	5.0	4.8	4.7	30.0
HERB	5.0	4.5	5.7	32.3
ARTIFICIAL TURF	6.8	7.4	7.6	40.9
EMERALD	8.0	8.2	7.8	40.7
SHAMROCK	8.8	8.1	8.9	39.7

	Centrality 1	Centrality 2	Salience	Diagnosticity
(IS) Spicy				
❖ MEXICAN FOOD	4.5	4.7	7.9	42.8
INDIAN FOOD	5.4	4.8	6.0	31.9
❖ BUFFALO WINGS	5.4	4.7	7.6	37.7
❖ CAJUN FOOD	6.2	5.9	8.0	44.5
(IS) LOUD				
CONSTRUCTION WORK	6.9	6.9	6.6	42.6
YELLING	7.4	7.9	7.5	37.3
SCREAMING	7.5	7.8	7.3	35.2
CRYING	5.9	4.3	5.1	22.3
HORN	6.2	5.9	6.3	35.2
TRAFFIC	5.1	5.9	5.4	29.0
• EARTHQUAKE	6.5	7.0	4.5	26.0
ACCIDENT	5.8	4.7	4.7	31.6
MOTORCYCLE	7.2	6.1	6.4	38.8
JACKHAMMMER	8.0	6.7	7.2	43.5
AIRPLANE	6.4	7.6	6.0	40.5
CONCERT	7.5	7.4	7.1	43.6
• AVALANCHE	6.5	7.8	5.1	32.0
EXPLOSION	8.3	8.4	8.6	45.9
GUN-FIRE	7.2	6.7	7.6	45.0
SIREN	7.6	6.7	8.2	45.1
FIREWORK	7.9	6.8	8.4	34.9
• CRYING BABY	7.0	5.0	5.2	31.6
STOMPING	6.1	4.4	4.8	22.2
THUNDER	6.9	6.3	7.4	35.0
ROCKET	6.6	7.6	7.6	35.2
(IS) EXTRAVAGANT				
FIRST CLASS TICKET	5.8	5.7	6.5	31.2
❖ JEWELRY	4.2	3.6	6.2	47.7
DIAMOND	5.7	4.9	6.8	51.2
❖ WEDDING	3.9	3.3	6.2	42.5
BROADWAY PLAY	5.8	4.3	4.4	31.4
PALACE	6.4	6.9	8.1	50.5
YACHT	6.1	5.6	7.0	40.0
❖ BALL GOWN	6.1	4.9	7.9	36.8
WEDDING CAKE	5.3	3.4	5.7	31.2
FANCY WINE	6.5	5.6	5.8	33.6

	Centrality 1	Centrality 2	Salience	Diagnosticity
(IS) SPOTTED				
DALMATIAN	8.4	7.2	8.9	44.0
COW	5.3	4.1	5.4	42.0
CHEETAH	7.8	7.1	7.7	43.6
LEOPARD	8.1	7.0	7.9	43.0
(IS) FREEZING				
❖ WINTER	3.5	4.0	8.5	45.3
❖ FREEZER	5.9	6.3	8.2	50.8
AIR CONDITIONING	4.5	4.6	5.4	30.9
ICE	7.8	8.0	9.2	57.6
❖ SNOW	7.3	6.5	8.4	49.3
ICE CREAM	6.6	6.3	7.4	38.5
NORTH POLE	8.7	8.7	9.0	41.6
POPSICLE	7.0	6.7	6.7	31.3
SLEET	6.8	7.4	7.5	32.6

APPENDIX F

LIST 1-HIGH SALIENCE/LOW CENTRALITY ITEMS

HAS FUR	Animal	Dogs
Cats	Mammals	Stuffed toy
HAS A TAIL	Animal	Cat
Dog		
IS ALIVE	Animal	Plant
Frog	Bug	Rabbit
Worm	Bear	Dog
Cat	Fish	Horse
Ant	Fly	Grass
Flower	Organism	Mammal
Bird	Human	
HOPS	Rabbit	Frog
Kangaroo	Grasshopper	
FLIES	Bird	Airplane
Insect	Bee	Sparrow
Cardinal		
SWIMS	People	Turtles
GROWS ON TREES	Flowers	Fruit
Leaves		
WALKS	Man	Robot
FEROCIOUS	Lion	Tiger
SCARY	Ghosts	Bats
Snakes	Spiders	
LARGE	Whales	Elephant
Mountain	Forest	Continent
Cities		
TALL	Tower	Basketball Player
Tree	Building	Ladder
Flagpole		
GREEN	Leaves	Grass
Trees	Vegetables	Peas
Money	Plants	Apple
Traffic Light	Frog	

JUICY	Apple	Steak
Candy	Orange	
CRUNCHY	Granola	Candy
HAS SEEDS	Watermelon	
EDIBLE	Food	Candy
Vegetable	Fruit	Meat
Cookie	Chicken	Hamburger
Banana	Apple	Orange
Carrot	Rice	Noodles
Fish	Cheese	
HAS LEAVES	Plant	
LIQUID	Water	
SWEET	Candy	Fruit
Cakes	Cookies	Pies
HAS WHEELS	Office chair	Toys
SPICY	Mexican Food	Buffalo Wings
Cajun Food	Jalapenos	Salsa
HOT	Oven	Stove
Fireplace	Heater	Summer
Coffee	Tea	
HAS A SHELL	Pistachio	
SALTY	Nuts	Potato Chip
Pretzel	Peanuts	Crackers
French Fries	Food	
ORANGE	Pumpkin	
ROUND	Glasses	Lollipop
Clock Face		
RED	Lips	Strawberries
Raspberries	Berries	Watermelon
Apple	Tomato	Blood
Rose	Stop Sign	Cherries
Hearts	Fire Engine	Peppers
Cardinal		
BLUE	Sky	School uniforms
Ocean	Water	Ink
Blueberries	Jeans	Lakes
Police car	Baby boy's clothes	Police uniforms

YELLOW	Sun	Big Bird
Lemon	Highlighter	Lemonade
Banana	Corn	School Bus
Cheese	Taxi	
DANGEROUS	Murderer	Gun
Knife		
POISONOUS	Chemicals	Berries
Venom	Spider	
SHARP	Knife	Sword
Razor	Scissors	Blades
LEATHER	Pocketbook	Coat
Boot	Watchband	Belt
Couch	Car interior	Shoe
Wallet	Briefcase	
WOOD	Pencil	Oar
Desk	Chair	Bed
House	Shutter	Pirate leg
Door	Birdhouse	Fence post
Dresser	Bench	Crate
Baseball bat	Puppet	Blocks
Floors	Cabinets	
ROLLS	Wheels	
RUBBER	Tire	Ball
Doll		
PLASTIC	Cup	Bottle
Soda bottle	Shopping bag	
CLEAR	Glass	Water
Plastic	Cellophane	Window
Saran wrap		
TRANSPARENT	Glass	Tear
Plastic		
COLD	Snow	Freezer
Winter	Refrigerator	Antarctica
GLASS	Drinking glass	Cup
Window	Vase	Bowl
Bottle		
REFLECTIVE	Mirror	
FREEZING	Winter	Snow
Freezer		

SMELLS	Garbage	Manure
Skunks	Foot	Gym Sock
SOFT	Pillows	
EXTRAVAGANT	Wedding	Ball gown
Jewelry		
TRIANGULAR	Slice of Pizza	
FAST	Sports car	Race car
Car		
STORES THINGS	Refrigerator	

APPENDIX G

LIST 2-HIGH CENTRALITY/LOW SALIENCE ITEMS

WHEELS	Airplane	Van
Train	Baby carriage	Roller coaster
Go-cart	Bus	
HAS A TAIL	Whale	Elephant
Cow	Kangaroo	
GROWS ON TREES	Bananas	Plums
Pears	Lemons	Limes
Peaches	Cherries	
SLIMY	Leech	Jellyfish
Oysters	Lotion	Oil
Mucus	Snails	
LIQUID	Soda	Beer
Wine	Alcohol	Tear
Oil	Soup	Ocean
Pool		
SMELLS	Halitosis	Garlic
Ammonia	Bleach	
STICKY	Jam	Peanut butter
Tar	Honey	Syrup
Molasses	Lollipop	Jelly
HAS SKIN	Animals	Person
Grapes	Chicken	Cow
Dog	Rabbit	Bird
Monkeys	Onion	Garlic
Tomato	Mammals	Reptiles
Snakes	Alligators	Fruit
Vegetables		
HAS FUR	Squirrel	Deer
Raccoon		
POISONOUS	Strychnine	Ammonia
ROUND	Earth	Sun
FAST	Light	
GLASS	Light bulb	
STORES THINGS	Suitcase	Bank
HAS SEEDS	Cucumber	

SWIMS	Eels	
HAS A HANDLE	Car Door	Umbrella
EDIBLE	Ice cube	
HOPS	Fleas	
HAS A SHELL	M&M's	
IS DANGEROUS	Stroke	
HAS LEAVES	Lettuce	
LOUD	Crying Baby	Earthquake
Avalanche		

APPENDIX H

SENTENCE AND QUESTION LISTS FOR EXPERIMENT 4

List 1A-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
The boy arrived at class carrying his tap shoes.	noisy	nonbiased	central
Sue went to the store to buy a candy bar.	rectangle	nonbiased	salient
When we were little, we used to play in the attic.	above	nonbiased	central
Sam and Judy decided to go skydiving.	is dangerous	nonbiased	salient
Jack couldn't decide where to plant the flowers.	alive	nonbiased	central
They put away all of the appetizers.	taste good	nonbiased	salient
It is very crowded at the beach.	sandy	nonbiased	central
Larry blocked while Tim took the basketball.	orange	nonbiased	salient
At the park, Al found a tennis ball.	bounces	nonbiased	central
On the side of the road was a traffic sign.	square	nonbiased	salient
Frank went to the new movie about a spaceship.	can fly	nonbiased	central
There is a new store downtown that rents videotapes.	rectangle	nonbiased	salient
Honey is made by bumblebees.	can sting	nonbiased	central
Under a huge rock hid many lobsters.	are red	nonbiased	salient
Mom bought new curtains for my window.	clear	nonbiased	central
While refinishing the kitchen, Albert bought a new refrigerator.	white	nonbiased	salient
It was not a bad day for traffic.	crowded	nonbiased	central
Mark couldn't fit into his old pair of jeans.	blue	nonbiased	salient
Timmy wanted to get food for the frogs.	eat flies	central biased	central
The power went out because of the lightning.	zig-zag	central biased	salient
To protect them from fire, we put the documents in the safe.	has lock	central biased	central
We could see our reflection on the television set.	is heavy	central biased	salient
We dug in the sand to find the oysters.	have shells	central biased	central
Digging in the dirt was a large pig.	dirty	central biased	salient
John cut his hand on the ice skates.	have blades	central biased	central
We hung the ornaments all around the Christmas tree.	has point	central biased	salient
Don ate the top off of the slice of pizza.	has cheese	central biased	central
Kevin only drank his tea with sugar.	is white	central biased	salient
Jacob stood at the plate and lifted his baseball bat.	has handle	central biased	central
Approaching the top, we held on to the bar of the roller coaster.	has thrills	central biased	salient
Sally listened eagerly to the first strains from tonight's concert.	has music	central biased	central
Walking by the river was the Dalmatian.	has spots	central biased	salient
Before using them in the pie, we needed to prepare the cherries.	have pits	central biased	central
On our trip, we saw baby and mother kangaroos.	can hop	central biased	salient

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
We needed to strain the juice from the grapefruit.	has pulp	central biased	central
Shedding was a normal event for snakes.	can hiss	central biased	salient
A fresh coat of paint was needed for the school bus.	has seats	salient biased	central
To make sure they weren't spoiled, we examined the bag of grapes.	are green	salient biased	salient
Pulling them out of the ground, we admired the crop of potatoes.	have skin	salient biased	central
We needed to arrange the desks in rows in the classroom.	Is square	salient biased	salient
As it rolled under the stove, Laura wished she had been more careful with the coins.	have value	salient biased	central
Kelly wasn't worried because she had only dropped the soda bottle.	is plastic	salient biased	salient
For practice, the racer always used an Olympic-sized pool.	has water	salient biased	central
Even at night in New York, we could easily spot a taxi.	is yellow	salient biased	salient
The stewardess brought the meal to the passenger on the airplane.	has wings	salient biased	central
Because of his beliefs, the activist refused to visit the zoo.	has cages	salient biased	salient
In trying to reach the roof, we tried many different ladders.	have rungs	salient biased	central
Because it felt cold against his skin, Timmy didn't like sitting in the shopping cart.	Is metal	salient biased	salient
Richard was embarrassed when he sneezed during the sermon at church.	holy	salient biased	central
For decoration, Carmen hung a strand of jalapenos.	red	salient biased	salient
From the bow of the ship, Billie admired the ocean.	is water	salient biased	central
To surprise his wife, Teddy made reservations for their anniversary.	celebrated	salient biased	salient
It took them a long time to travel to China.	large	salient biased	central
While visiting the museum, we saw the skeletons of dinosaurs.	are huge	salient biased	salient
Climbing on the leaf was a fuzzy caterpillar.	lays eggs	control	central
Ron sat down and wrote his name on the cover of the test booklet.	blue	control	salient
Paul loved to play the drum.	loud	control	central
Standing on the ground, Gerry stared up at the roof.	triangular	control	salient
Terry gave Ilene pita.	made of dough	control	central
As the car rolled past, we couldn't help but notice the hubcaps.	silver	control	salient
Reaching into the bag, Jill grabbed a chip.	potato	control	central
We couldn't wait to take a trip to Chicago.	far	control	salient
For a snack, Jason always ate crackers.	salty	control	central
In the morning Julie got ready and put on her necklace.	metal	control	salient

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
For their wedding, Joe and Susan received a lot of crystal.	sparkles	control	central
Randy picked up the book and put on his glasses.	clear	control	salient
Percy decided to chew a piece of gum.	sticky	control	central
Pat reached over to the table and picked up her ring.	round	control	salient
In the morning, Arnie always enjoyed a muffin.	sweet	control	central
Before writing the report, Jan needed to pick up paper.	is white	control	salient
Rob was in charge of laying the floor.	under	control	central
Tom always had problems writing the number zero.	oval	control	salient

Did the boy have tap shoes?
Did they play in the den?
Was it Jack who was deciding where to plant the flowers?
Is it empty at the beach?
Did Al find a tennis ball?
Was it Tom who went to the movies?
Is honey made by bumblebees?
Did mom buy new windows?
Was it a good day for traffic?
Did Timmy want to feed his frog?
Were the documents in the drawer?
Did we dig in the sand for oysters?
Did John cut his hands with ice skates?
Did Don eat the top of the cherry pie?
Was it Jacob standing at the plate?
Did Sally listen eagerly to hear tonight's TV show?
Did the cherries need to be prepared?
Was it orange juice that needed to be strained?
Did the school bus need a fresh coat of paint?
Were carrots pulled from out of the ground?
Did Laura wish she had been more careful with the coins?
Did the racer use the ocean to practice in?
Did the stewardess bring a meal to the passenger?
Did they try to reach the roof with a truck?
Did Richard sneeze during the sermon?
Was it Jacob who enjoyed the ocean from the bow of the ship?
Did it take a long time to travel to China?
Was it a spider climbing on the leaf?
Did Paul love to play the drum?
Did Terry give Ilene a pretzel?
Did Jill grab a chip?
Did Jason always eat apples?
Did Joe and Susan receive crystal for their wedding?
Was Percy chewing tobacco?
Did Arnie enjoy a muffin in the morning?
Was Rob in charge of putting up wallpaper?

List 1B-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
The boy arrived at class carrying his tap shoes.	shiny	nonbiased	salient
Sue went to the store to buy a candy bar.	is sweet	nonbiased	central
When we were little, we used to play in the attic.	dusty	nonbiased	salient
Sam and Judy decided to go skydiving.	adventurous	nonbiased	central
Jack couldn't decide where to plant the flowers.	pretty	nonbiased	salient
They put away all of the appetizers.	are food	nonbiased	central
It is very crowded at the beach.	is hot	nonbiased	salient
Larry blocked while Tim took the basketball.	bounce	nonbiased	central
At the park, Al found a tennis ball.	yellow	nonbiased	salient
On the side of the road was a traffic sign.	bright	nonbiased	central
Frank went to the new movie about a spaceship.	silver	nonbiased	salient
There is a new store downtown that rents videotapes.	can record	nonbiased	central
Honey is made by bumblebees.	has stripes	nonbiased	salient
Under a huge rock hid many lobsters.	claws	nonbiased	central
Mom bought new curtains for my window.	square	nonbiased	salient
While refinishing the kitchen, Albert bought a new refrigerator.	cold	nonbiased	central
It was not a bad day for traffic.	annoying	nonbiased	salient
Mark couldn't fit into his old pair of jeans.	denim	nonbiased	central
Timmy wanted to get food for the frogs.	are green	central biased	salient
The power went out because of the lightning.	electric	central biased	central
To protect them from fire, we put the documents in the safe.	is metal	central biased	salient
We could see our reflection on the television set.	has screen	central biased	central
We dug in the sand to find the oysters.	is slimy	central biased	salient
Digging in the dirt was a large pig.	snout	central biased	central
John cut his hand on the ice skates.	are leather	central biased	salient
We hung the ornaments all around the Christmas tree.	has branches	central biased	central
Don ate the top off of the slice of pizza.	triangular	central biased	salient
Kevin only drank his tea with sugar.	has grains	central biased	central
Jacob stood at the plate and lifted his baseball bat.	is wooden	central biased	salient
Approaching the top, we held on to the bar of the roller coaster.	has hills	central biased	central
Sally listened eagerly to the first strains from tonight's concert.	are noisy	central biased	salient
Walking by the river was the Dalmatian.	has paws	central biased	central
Before using them in the pie, we needed to prepare the cherries.	are red	central biased	salient
On our trip, we saw baby and mother kangaroos.	has pouch	central biased	central
We needed to strain the juice from the grapefruit.	is sour	central biased	salient
Shedding was a normal event for snakes.	has scales	central biased	central
A fresh coat of paint was needed for the school bus.	is yellow	salient biased	salient

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
To make sure they weren't spoiled, we examined the bag of grapes.	has seeds	salient biased	central
Pulling them out of the ground, we admired the crop of potatoes.	is brown	salient biased	salient
We needed to arrange the desks in rows in the classroom.	has students	salient biased	central
As it rolled away, Laura wished she were more careful with the coins.	are round	salient biased	salient
Kelly wasn't worried because she had only dropped the soda bottle.	has volume	salient biased	central
For practice, the racer always used an Olympic-sized pool.	are square	salient biased	salient
Even at night in New York, we could easily spot a taxi.	has wheels	salient biased	central
The stewardess brought the meal to the passenger on the airplane.	has seats	salient biased	salient
Because of his beliefs, the activist refused to visit the zoo.	have animals	salient biased	central
In trying to reach the roof, we tried many different ladders.	are tall	salient biased	salient
Because it felt cold ,Timmy didn't like sitting in the shopping cart.	carries	salient biased	central
Richard was embarrassed when he sneezed during the sermon at church.	quiet	salient biased	salient
For decoration, Carmen hung a strand of jalapenos.	hot	salient biased	central
From the bow of the ship, Billie admired the ocean.	is blue	salient biased	salient
To surprise his wife, Teddy made reservations for their anniversary.	is yearly	salient biased	central
It took them a long time to travel to China.	is far	salient biased	salient
While visiting the museum, we marveled at the skeletons of dinosaurs.	lay eggs	salient biased	central
At the intersection was a flashing light.	is yellow	control	salient
Percy was afraid of the sight of blood.	liquid	control	central
In the morning Tracy got ready and put on her ring.	round	control	salient
At the pueblo, we watched the women make tortillas.	made of corn	control	central
Phil needed to replace his watchband.	have a hole	control	salient
Cathy always wore that beautiful necklace.	metal	control	central
For lunch, Rebecca's mother packed potato chips.	greasy	control	salient
Roberta climbed up the old wall.	rock	control	central
Chris liked to eat pretzels.	twisted	control	salient
For the multiple choice exam Jen brought five pencils.	sharp	control	central
For school, Walter needed to buy a new computer.	expensive	control	salient
Tom really liked to chew gum.	sticky	control	central
We looked forward to going to Florida and seeing flamingoes.	pink	control	salient
Arnie really enjoyed a morning muffin.	sweet	control	central
To plant the flowers, Rich dug a hole.	round	control	salient
In the afternoon, Rachel enjoyed a latte.	to drink	control	central

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
The coats were stored in the closet.	dark	control	salient
For breakfast, Harry ate an omelet.	yolk	control	central

Questions 1B-Experiment 4

Did the boy have tap shoes?
Did they play in the den?
Was it Jack who was deciding where to plant the flowers?
Is it empty at the beach?
Did Al find a tennis ball?
Was it Tom who went to the movies?
Is honey made by bumblebees?
Did mom buy new windows?
Was it a good day for traffic?
Did Timmy want to feed his frog?
Were the documents in the drawer?
Did we dig in the sand for oysters?
Did John cut his hands with ice skates?
Did Don eat the top of the cherry pie?
Was it Jacob standing at the plate?
Did Sally listen eagerly to hear tonight's TV show?
Did the cherries need to be prepared?
Was it orange juice that needed to be strained?
Did the school bus need a fresh coat of paint?
Were the carrots pulled from out of the ground?
Did Laura wish she had been more careful with the coins?
Did the racer use the ocean to practice in?
Did the stewardess bring a meal to the passenger?
Did they try to reach the roof with a truck?
Did Richard sneeze during the sermon?
Was it Jacob who enjoyed the ocean from the bow of the ship?
Did it take a long time to travel to China?
Was the flashing light on the corner?
Did Tracy put on her ring?
Did Paul need to replace his whole watch?
Did Rebecca's mom pack her potato chips?
Did Chris like to eat popcorn?
Was it Walter who needed to buy a new computer?
Were we going to see penguins?
Did Rich dig a hole?
Were the coats stored on a coat rack?

List 2A-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Mary danced across the stage in her new tap shoes.	noisy	central biased	central
Tom really enjoyed the taste of the candy bar.	rectangle	central biased	salient
We could hear noise coming from the attic.	above	central biased	central
After rock climbing, they plan on going skydiving.	is dangerous	central biased	salient
In the vase filled with water were some flowers.	alive	central biased	central
We were full because of the appetizers.	taste good	central biased	salient
Jim loves to remove his shoes and walk on the beach.	sandy	central biased	central
Coming down the court, Larry had good control of the basketball	orange	central biased	salient
Using a wall, we practiced hitting a tennis ball.	bounces	central biased	central
Even at night, we could clearly see the traffic sign.	square	central biased	salient
We couldn't wait to take a ride in the spaceship.	can fly	central biased	central
For the birth of their first child, Paul and Wendy bought videotapes.	rectangle	central biased	salient
If you are going to the meadow, watch out for all of the bumblebees.	can sting	central biased	central
You should be careful not to step on lobsters.	is red	central biased	salient
Grandfather looked at the rain through the window.	clear	central biased	central
To keep them fresh, we put the chicken and meat into the refrigerator.	white	central biased	salient
The cars couldn't move quickly because of the traffic.	crowded	central biased	central
Terry brought fabric to make a new pair of jeans.	blue	central biased	salient
The lily pad provided camouflage for the frogs.	eat flies	salient biased	central
We looked in the sky and saw the lightning.	zig-zag	salient biased	salient
To protect them from fire, we the documents in the safe.	has a lock	salient biased	central
Jerry and Bob moved the television set.	is heavy	salient biased	salient
I don't like the feel of oysters.	has shell	salient biased	central
Rolling around in the pen was the pig.	dirty	salient biased	salient
Before the winter, we always clean the boots of our ice skates.	has blades	salient biased	central
We put the star on the top of the Christmas tree.	has a point	salient biased	salient
He designed a plate for a single slice of pizza.	has cheese	salient biased	central
At home, we only use processed sugar.	is white	salient biased	salient
Don was upset that he had broken the baseball bat.	has handle	salient biased	central
Whipping around the curve, we yelled as we rode on the roller coaster.	has thrills	salient biased	salient
We were concerned that we were sitting too close to the stage at the concert.	has music	salient biased	central
Mark wanted to take a picture of a Dalmatian.	has spots	salient biased	salient
We were amazed at the ripeness of the cherries.	has pits	salient biased	central
Moving quickly across the field were two large kangaroos.	can hop	salient biased	salient

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
The young boy made a face when he first tasted the grapefruit.	has pulp	salient biased	central
We heard a noise before we noticed the two snakes.	can hiss	salient biased	salient
We bought our tickets and walked into the movie theater.	has seats	control	central
Kara picked flowers and cut the stems.	are green	control	salient
Flying through the air was a beautiful robin.	has skin	control	central
After finishing her computer project, Mari stored the diskette.	is square	control	salient
At the art museum, Lilly saw many wonderful paintings.	has value	control	central
While unpacking groceries, Dave put away the shampoo bottle.	is plastic	control	salient
Gary examined the car engine.	has water	control	central
In the field were hundreds of daisies.	is yellow	control	salient
In the Antarctic, Mari saw a real penguin.	has wings	control	central
For their vacation, Ron and Sue took their dog to the kennel.	have cages	control	salient
To reach the dishes, Roz needed a step stool.	have rungs	control	central
In the morning, Julie got ready and put on her necklace.	is metal	control	salient
For Pat's birthday, her parents took her to Jerusalem.	holy	control	central
Before going out, Tia put on lipstick.	red	control	salient
Will warned Dot to watch out for the puddle.	is water	control	central
Dave got a big promotion.	celebrated	control	salient
Coming towards them was an angry bear.	large	control	central
Vicki went to New York to see all of the buildings.	are huge	control	salient
Tom bought a cage for the canary.	lays eggs	nonbiased	central
The car needed more antifreeze.	blue	nonbiased	salient
While at the music store, Jim bought cymbals.	loud	nonbiased	central
The restaurant ran out of tortilla chips.	triangular	nonbiased	salient
For breakfast, Andy had a bagel.	made of dough	nonbiased	central
The 17th century museum housed fine examples of armor.	silver	nonbiased	salient
While at the supermarket, John picked up two bags of french fries.	potato	nonbiased	central
Neil Armstrong was the first man to walk on the moon.	far	nonbiased	salient
The vendor on the corner sells the best pretzels.	salty	nonbiased	central
Al went to the department store to buy a butcher's knife.	metal	nonbiased	salient
While shopping, we looked at the green gem.	sparkles	nonbiased	central
Rick lost the roll of scotch tape.	clear	nonbiased	salient
It only costs twenty-five cents for bubble gum.	sticky	nonbiased	central
The doctor gave Dave a yellow lollipop.	round	nonbiased	salient
Melting in John's hand were the M&M's.	sweet	nonbiased	central

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
At Andrew's farm, they bottle milk.	is white	nonbiased	salient
Rich has over three hundred bottles of wine in his cellar.	under	nonbiased	central
For breakfast everyday, Casey has two eggs.	oval	nonbiased	salient

Did Mary dance across the stage?
Was there noise coming from the kitchen?
Was there water in the vase?
Does Jim wear shoes on the beach?
Did we practice hitting a tennis ball?
Were we taking a ride on a trolley?
Are bumblebees in the meadow?
Did grandfather look through the door?
Was there traffic?
Were toads camouflaged by the lily pad?
Were the documents protected from fire?
Do I like the feel of oysters?
Do we clean the boots of our ice skates?
Could the plate fit three slices of pizza?
Was Don upset?
Were we sitting too far from the stage?
Were the cherries ripe?
Did the boy make a sound of disgust?
Did we buy tickets?
Was a bluebird flying through the air?
Did Lily go to the museum?
Was Gary examining the car paint?
Was Mari in the Antarctic?
Was Roz trying to reach the glasses?
Did Pat go to Jerusalem?
Did Will warn Dot about the dog?
Was the bear angry?
Was the cage for the parrot?
Was Jim at the music store?
Did Andy eat a muffin?
Was John at the supermarket?
Are the pretzels the worst?
Were we shopping?
Does a candy bar cost twenty-five cents?
Did John have M&M's?
Does Rich have over three hundred wine bottles?

List 2B-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Mary danced across the stage in her new tap shoes.	shiny	central biased	salient
Tom really enjoyed the taste of the candy bar.	is sweet	central biased	central
We could hear noise coming from the attic.	dusty	central biased	salient
After rock climbing, they plan on going skydiving.	adventurous	central biased	central
In the vase filled with water were some flowers.	pretty	central biased	salient
We were full because of the appetizers.	are food	central biased	central
Jim loves to remove his shoes and walk on the beach.	is hot	central biased	salient
Coming down the court, Larry had good control of the basketball	bounce	central biased	central
Using a wall, we practiced hitting a tennis ball.	yellow	central biased	salient
Even at night, we could clearly see the traffic sign.	bright	central biased	central
We couldn't wait to take a ride in the spaceship.	silver	central biased	salient
For the birth of their first child, Paul and Wendy bought videotapes.	can record	central biased	central
If you are going to the meadow, watch out for all of the bumblebees.	has stripes	central biased	salient
You should be careful not to step on lobsters.	claws	central biased	central
Grandfather looked at the rain through the window.	square	central biased	salient
To keep them fresh, we put the chicken and meat into the refrigerator.	cold	central biased	central
The cars couldn't move quickly because of the traffic.	annoying	central biased	salient
Terry brought fabric to make a new pair of jeans.	denim	central biased	central
The lily pad provided camouflage for the frogs.	are green	salient biased	salient
We looked in the sky and saw the lightning.	electric	salient biased	central
To protect them from fire, we put the documents in the safe.	is metal	salient biased	salient
Jerry and Bob moved the television set.	has screen	salient biased	central
I don't like the feel of oysters.	is slimy	salient biased	salient
Rolling around in the pen was the pig.	snout	salient biased	central
Before the winter, we always clean the boots of our ice skates.	are leather	salient biased	salient
We put the star on the top of the Christmas tree.	has branches	salient biased	central
He designed a plate for a single slice of pizza.	triangular	salient biased	salient
At home, we only use processed sugar.	has grains	salient biased	central
Don was upset that he had broken the baseball bat.	is wooden	salient biased	salient
Whipping around the curve, we yelled as we rode on the roller coaster.	has hills	salient biased	central
We were concerned that we were sitting too close to the stage at the concert.	are noisy	salient biased	salient
Mark wanted to take a picture of a Dalmatian.	has paws	salient biased	central
We were amazed at the ripeness of the cherries.	are red	salient biased	salient
Moving quickly across the field were two large kangaroos.	has pouch	salient biased	central
The young boy made a face when he first tasted the grapefruit.	is sour	salient biased	salient

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
We heard a noise before we noticed the two snakes	has scales	salient biased	central
In the field were hundreds of daisies.	is yellow	control	salient
In the backyard, Lisa planted tomatoes.	has seeds	control	central
Coming towards them was an angry bear.	is brown	control	salient
To prepare to be a chef, Gary enrolled in culinary school.	has students	control	central
Pat reached over to the table and picked up her ring.	are round	control	salient
While unpacking groceries, Dave put away the shampoo bottle.	has volume	control	central
After finishing her computer project, Mari stored the diskettes.	are square	control	salient
For his birthday, Brett wanted a new scooter.	has wheels	control	central
We bought our tickets and walked into the movie theater.	has seats	control	salient
Sylvia went to see the circus.	have animals	control	central
In front of the school stood a silver flagpole.	are tall	control	salient
Theresa's mother bought her a new backpack.	carries	control	central
To study, Sandy went to the library.	quiet	control	salient
For a vacation, Randy went to the beach.	hot	control	central
Ron sat down and wrote his name on the cover of the test booklet.	is blue	control	salient
Ken started college in the fall.	is yearly	control	central
We couldn't wait to take a trip to Chicago.	is far	control	salient
Climbing on the leaf was a fuzzy caterpillar.	lay eggs	control	central
Tom bought a cage for the canary.	is yellow	nonbiased	salient
The car needed more antifreeze.	liquid	nonbiased	central
While at the music store, Jim bought cymbals.	round	nonbiased	salient
The restaurant ran out of tortilla chips.	made of corn	nonbiased	central
For breakfast, Andy had a bagel.	have a hole	nonbiased	salient
The 17th century museum housed fine examples of armor.	metal	nonbiased	central
While at the supermarket, John picked up two bags of french fries.	greasy	nonbiased	salient
Neil Armstrong was the first man to walk on the moon.	rock	nonbiased	central
The vendor on the corner sells the best pretzels.	twisted	nonbiased	salient
Al went to the department store to buy a butcher's knife.	sharp	nonbiased	central
While shopping, we looked at the green gem.	expensive	nonbiased	salient
Rick lost the roll of scotch tape.	sticky	nonbiased	central
It only costs twenty-five cents for bubble gum.	pink	nonbiased	salient
The doctor gave Dave a yellow lollipop.	sweet	nonbiased	central
Melting in John's hand were the M&M's.	round	nonbiased	salient
At Andrew's farm, they bottle milk.	to drink	nonbiased	central
Rich has over three hundred bottles of wine in his cellar.	dark	nonbiased	salient
For breakfast everyday, Casey has two eggs.	yolk	nonbiased	central

Questions 2B-Experiment 4

Did Mary dance across the stage?
Was there noise coming from the kitchen?
Was there water in the vase?
Does Jim wear shoes on the beach?
Did we practice hitting a tennis ball?
Were we taking a ride on a trolley?
Are bumblebees in the meadow?
Did grandfather look through the door?
Was there traffic?
Were toads camouflaged by the lily pad?
Were the documents protected from fire?
Do I like the feel of oysters?
Do we clean the boots of our ice skates?
Could the plate fit three slices of pizza?
Was Don upset?
Were we sitting too far from the stage?
Were the cherries ripe?
Did the boy make a sound of disgust?
Were there daisies in the field?
Was the bear calm?
Was Pat reaching for her ring?
Was Mari working on a chemistry project?
Were we buying tickets?
Was the flagpole black?
Did Sandy study in the library?
Did Ron write his name on the notebook?
Were we going to Chicago?
Was the cage for the parrot?
Was Jim at the music store?
Did Andy eat a muffin?
Was John at the supermarket?
Are the pretzels the worst?
Were we shopping?
Does a candy bar cost twenty-five cents?
Did John have M&M's?
Does Rich have over three hundred wine bottles?

List 3A-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Paul loved to play the drum.	noisy	control	central
Rachel went to the store to buy a book.	rectangle	control	salient
Paula kept her dolls in the bedroom.	above	control	central
In the winter, Trina loved to go skiing.	is dangerous	control	salient
At the zoo, Eva saw a walrus.	alive	control	central
Arnie really enjoyed a morning muffin.	taste good	control	salient
In the evening, Jake took a walk on the boardwalk.	sandy	control	central
In the street were warning cones.	orange	control	salient
For his birthday, Mark got a beach ball.	bounces	control	central
After finishing her computer project, Mari stored the diskette.	square	control	salient
On the pond were seventeen ducks.	can fly	control	central
His school was building a new football field.	rectangle	control	salient
At the beach, Joe saw some jellyfish.	can sting	control	central
At the intersection was a flashing light.	is red	control	salient
The teller sat behind the Plexiglas.	clear	control	central
Before writing the report, Jan needed to pick up paper.	white	control	salient
Paul really hated taking the subway.	crowded	control	central
Ron sat down and wrote his name on the cover of the test booklet.	blue	control	salient
Little Johnny went to the pond to catch frogs.	eats flies	nonbiased	central
Children are often scared of lightning.	zig-zag	nonbiased	salient
In Zachary's house, there is a safe.	has lock	nonbiased	central
Tom sold his television set.	is heavy	nonbiased	salient
The chef made a dish with oysters.	has shell	nonbiased	central
Father won first prize at the county fair for his pig.	dirty	nonbiased	salient
His older brother gave him the ice skates.	has blades	nonbiased	central
The family went and bought a Christmas tree.	has a point	nonbiased	salient
For lunch, Alex had a slice of pizza.	has cheese	nonbiased	central
Rob went to the store to buy sugar.	is white	nonbiased	salient
In the window was a brand new baseball bat.	has handle	nonbiased	central
There was a long line for the roller coaster.	has thrills	nonbiased	salient
Jim lost his ticket to the concert.	has music	nonbiased	central
The fireman rode with a Dalmatian.	has spots	nonbiased	salient
Greg made the pie with cherries.	has pits	nonbiased	central
In Australia, there are many kangaroos.	can hop	nonbiased	salient
For breakfast, Marsha likes to have a grapefruit.	has pulp	nonbiased	central
Moving across the floor were two snakes.	can hiss	nonbiased	salient
The children talked to their friends on the school bus.	has seats	central biased	central
Discarding the unwanted innards, we ate the bag of grapes.	are green	central biased	salient
Always wash the outsides before preparing baked potatoes.	has skin	central biased	central

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
The teacher was not surprised to have such a full classroom.	is square	central biased	salient
For lunch, David gave the cashier a handful of coins.	has value	central biased	central
You need to be more careful when pouring from a full soda bottle.	is plastic	central biased	salient
Walter always likes to watch his parents fill the pool.	has water	central biased	central
While on a hill, the driver put the parking break on the taxi.	is yellow	central biased	salient
As the plane landed, the pilot adjusted the flaps on the airplane.	has wings	central biased	central
The toddler was excited about his first trip to the zoo.	have cages	central biased	salient
Before using them, you should always check the sturdiness of old ladders.	have rungs	central biased	central
Because the Martin's had a long list, they decided to grab a shopping cart.	is metal	central biased	salient
The worshipers bowed their heads as they entered the church.	holy	central biased	central
It always brought tears to her eyes when she bit into jalapenos.	red	central biased	salient
Lucy grabbed a towel after coming out from the ocean.	is water	central biased	central
Once again, it was time to buy a gift for my parent's anniversary.	celebrated	central biased	salient
It took them a long time to travel across China.	large	central biased	central
In biology, we were taught about the reproduction of dinosaurs.	are huge	central biased	salient
Looking in the pet store window, Ken admired the plumage of the canary.	lays eggs	salient biased	central
Scanning the shelf, we could see there was plenty of antifreeze.	blue	salient biased	salient
The children used old plates covered with tin foil to make cymbals.	loud	salient biased	central
To pick up the salsa, Juan would grasp a corner on his tortilla chips.	triangular	salient biased	salient
At the bakery, Zack and Belinda helped them shape the bagels.	made of dough	salient biased	central
George was told by his boss at the museum to check the polish of the armor.	silver	salient biased	salient
Tracy couldn't believe the residue left by the french fries.	potato	salient biased	central
Neil Armstrong checked the fuel supply for his trip to the moon.	far	salient biased	salient
In her cooking class, Jill prepared the dough to make some homemade pretzels.	salty	salient biased	central
Pam could see her reflection in her new butcher's knife.	metal	salient biased	salient
Although he thought it was beautiful, the janitor couldn't rationalize buying such a gem.	sparkles	salient biased	central
To achieve a clean look, we only used scotch tape.	clear	salient biased	salient
It was clear that what she put in her mouth was a piece of bubble gum.	sticky	salient biased	central

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Reaching into the bag, Sue could feel right away that there was a lollipop.	round	salient biased	salient
Carol preferred plain, not peanut M&M's.	sweet	salient biased	central
Stan wiped away the moustache as he finished his milk.	is white	salient biased	salient
Kathy was scared to go into the cellar.	under	salient biased	central
Picking them up out of the nest, Stan admired the hen's eggs.	oval	salient biased	salient

Questions 3A-Experiment 4

Did Paul love to play the drum?
Did Paula keep her dolls in the living room?
Did Eva see a walrus at the zoo?
Did Jake take a walk on the beach?
For his birthday did Mark get a beach ball?
Were there two ducks on the pond?
Did Joe see some jellyfish?
Were the tellers behind metal bars?
Did Paul really hate the subway?
Did Johnny catch fish?
Does Zachary's house have a safe?
Was it my mom who made an oyster dish?
Are his skates from his brother?
Did Alex have a salad for lunch?
Was the baseball bat brand new?
Was the lost ticket for a baseball game?
Did Greg make the pie?
Did Marsha eat grapefruit for lunch?
Did the children talk on the bus?
Should you wash potatoes after cooking them?
Did David give the cashier coins?
Does Walter like to watch the bathtub being filled?
Did the pilot adjust the flaps on the airplane?
Should you use the old ladder and not check it?
Were the heads of the worshippers bowed?
Did Susan want to be introduced to Tom's son?
Was it my parent's anniversary?
Did Kevin admire the dogs?
Did the children make cymbals?
Were Zach and Belinda at the drugstore?
Was the residue left by the french fries?
Did Jill make bagels?
Did the janitor think the gem was beautiful?
Did she put the gum in her pocket?
Did Carol prefer plain M&M's?
Was Kathy excited?

List 3B-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Lance leaned over and picked up the penny.	shiny	control	salient
In the morning Arnie always enjoyed a muffin.	is sweet	control	central
Percy needed to get the trunk from the attic.	dusty	control	salient
Holly wanted to go climbing.	adventurous	control	central
For Theresa's birthday, Mark sent a bouquet.	pretty	control	salient
On the airplane, John was only given a pack of crackers.	are food	control	central
For a vacation, Randy went to the beach.	is hot	control	salient
For his birthday, Mark got a beach ball.	bounce	control	central
At the intersection was a flashing light.	yellow	control	salient
For the party, Laura purchased the decorations.	bright	control	central
As the car rolled past, we couldn't help but notice the hubcaps.	silver	control	salient
Patty needed to buy some CD's.	can record	control	central
Climbing on the leaf was a fuzzy caterpillar.	has stripes	control	salient
Sitting on the perch was a beautiful parrot.	claws	control	central
After finishing her computer project, Mari stored the diskette.	square	control	salient
Jasper went on a trip to Canada.	cold	control	central
Pulling hair is a typical behavior for toddlers.	annoying	control	salient
Kate took her old jeans and made a pair of shorts.	denim	control	central
Little Johnny went to the pond to catch frogs.	are green	nonbiased	salient
Children are often scared of lightning.	electric	nonbiased	central
In Zachary's house, there is a safe.	is metal	nonbiased	salient
Tom sold his television set.	has screen	nonbiased	central
The chef made a dish with oysters.	is slimy	nonbiased	salient
Father's won first prize at the county fair for his pig.	snout	nonbiased	central
His older brother gave him the ice skates.	are leather	nonbiased	salient
The family went and bought a Christmas tree.	has branches	nonbiased	central
For lunch, Alex had a slice of pizza.	triangular	nonbiased	salient
Rob went to the store to buy sugar.	has grains	nonbiased	central
In the window was a brand new baseball bat.	is wooden	nonbiased	salient
There was a long line for the roller coaster.	has hills	nonbiased	central
Jim lost his ticket to the concert.	are noisy	nonbiased	salient
The fireman rode with a Dalmatian.	has paws	nonbiased	central
Greg made the pie with cherries.	are red	nonbiased	salient
In Australia, there are many kangaroos.	has pouch	nonbiased	central
For breakfast, Marsha likes to have a grapefruit.	is sour	nonbiased	salient
Moving across the floor were two snakes.	has scales	nonbiased	central
After they boarded, the children talked to their friends on the school bus.	is yellow	central biased	salient
Discarding the unwanted innards, we ate the bag of grapes.	has seeds	central biased	central

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Always wash the outsides before preparing the baked potatoes.	is brown	central biased	salient
The teacher was not surprised to have such a full classroom.	has students	central biased	central
For lunch, David gave the cashier a handful of coins.	are round	central biased	salient
You need to be more careful when pouring from a full soda bottle.	has volume	central biased	central
Walter always likes to watch his parents fill the pool.	are square	central biased	salient
While on a hill, the driver put the parking break on the taxi.	has wheels	central biased	central
As the plane landed, the pilot adjusted the flaps on the airplane.	has seats	central biased	salient
The toddler was excited about his first trip to the zoo.	have animals	central biased	central
Before using them, you should always check the sturdiness of old ladders.	are tall	central biased	salient
Because the Martin's had a long list, they decided to grab a shopping cart.	carries	central biased	central
The worshipers bowed their heads as they entered the church.	quiet	central biased	salient
It always brought tears to her eyes when she bit into jalapenos.	hot	central biased	central
Lucy grabbed a towel after coming out from the ocean.	is blue	central biased	salient
Once again, it was time to buy a gift for my parent's anniversary.	is yearly	central biased	central
It took them a long time to travel across China.	is far	central biased	salient
In biology, we were taught about the reproduction of dinosaurs.	lay eggs	central biased	central
Looking in the pet store window, Ken admired the plumage of the canary.	is yellow	salient biased	salient
Scanning the shelf, we could see there was plenty of antifreeze.	liquid	salient biased	central
The children used old plates covered with tin foil to make cymbals.	round	salient biased	salient
To pick up the salsa, Juan would grasp a corner on his tortilla chips.	made of corn	salient biased	central
At the bakery, Zack and Belinda helped them shape the bagels.	have a hole	salient biased	salient
George was told by his boss at the museum to check the polish of the armor.	metal	salient biased	central
Tracy couldn't believe the residue left by the french fries.	greasy	salient biased	salient
Neil Armstrong checked the fuel supply for his trip to the moon.	rock	salient biased	central
In her cooking class, Jill prepared the dough to make some homemade pretzels.	twisted	salient biased	salient
Pam could see her reflection in her new butcher's knife.	sharp	salient biased	central
Although he thought it was beautiful, the janitor couldn't rationalize buying such a gem.	expensive	salient biased	salient
To achieve a clean look, we only used scotch tape.	sticky	salient biased	central

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
It was clear that what she put in her mouth was a piece of bubble gum.	pink	salient biased	salient
Reaching into the bag, Sue could feel right away that there was a lollipop.	sweet	salient biased	central
Carol preferred plain, not peanut M&M's.	round	salient biased	salient
Stan wiped away the moustache as he finished his milk.	to drink	salient biased	central
Kathy was scared to go into the cellar.	dark	salient biased	salient
Picking them up out of the nest, Stan admired the hen's eggs.	yolk	salient biased	central

Questions 3B-Experiment 4

Did Johnny catch fish?
Does Zachary's house have a safe?
Was it my mom who made an oyster dish?
Are his skates from his brother?
Did Alex have a salad for lunch?
Was the baseball bat brand new?
Was the lost ticket for a baseball game?
Did Greg make the pie?
Did Marsha eat grapefruit for lunch?
Did the children talk on the bus?
Should you wash potatoes after cooking them?
Did David give the cashier coins?
Does Walter like to watch the bathtub being filled?
Did the pilot adjust the flaps on the airplane?
Should you use the old ladder and not check it?
Were the heads of the worshippers bowed?
Did Susan want to be introduced to Tom's son?
Was it my parent's anniversary?
Did Kevin admire the dogs?
Did the children make cymbals?
Were Zach and Belinda at the drugstore?
Was the residue left by the french fries?
Did Jill make bagels?
Did the janitor think the gem was beautiful?
Did she put the gum in her pocket?
Did Carol prefer plain M&M's?
Was Kathy excited?

List 4A-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
For the recital, Joe polished the tap shoes.	noisy	salient biased	central
In Jim's hand was a piece of a candy bar.	rectangle	salient biased	salient
For years, Mary hadn't gone into the attic.	above	salient biased	central
Jill's mother did not want her to go skydiving.	is dangerous	salient biased	salient
In the spring, we admired the blooming flowers.	alive	salient biased	central
At the party, Cindy really enjoyed the appetizers.	taste good	salient biased	salient
We love to sit out on the beach.	sandy	salient biased	central
Against the blacktop, we could clearly see the basketball.	orange	salient biased	salient
Because of the glare, we couldn't see the tennis ball.	bounces	salient biased	central
They cut the metal to make a traffic sign.	square	salient biased	salient
He painted the model of a spaceship.	can fly	salient biased	central
A VCR is only designed to fit videotapes.	rectangle	salient biased	salient
Before going to the meadow, we told them how to spot the bumblebees.	can sting	salient biased	central
Out of the boiling water dad pulled five lobsters.	is red	salient biased	salient
It was a standard size window.	clear	salient biased	central
We wanted to match the cabinet knobs with the refrigerator.	white	salient biased	salient
Hank was extremely late for work because of traffic.	crowded	salient biased	central
I wanted to get a shirt to match my jeans.	blue	salient biased	salient
Climbing on the tree branch was an iguana.	eats flies	control	central
Coming down the slopes was the skier.	zig-zag	control	salient
Every night Tina wrote in her diary.	has lock	control	central
Coming home from the store, Jim carried the grocery bag.	is heavy	control	salient
On the rock was a small snail.	has shell	control	central
Paul went to the store to shop for a toilet.	dirty	control	salient
Tom wanted to try his new lawn mower.	has blades	control	central
Wendy had difficulty threading the needle.	has a point	control	salient
For dinner, Meg prepared tortellini.	has cheese	control	central
For the school project, Greta bought glue.	is white	control	salient
While preparing dinner, Kira filled the pot.	has handle	control	central
On vacation, Randy rented a speedboat.	has thrills	control	salient
Paula really wanted that jewelry box.	has music	control	central
On the safari, Lana saw a cheetah.	has spots	control	salient
Phil eats his cereal with prunes.	has pits	control	central
Marta's dog had fleas.	can hop	control	salient
At the grocery store, Lance bought limes.	has pulp	control	central
Climbing on the furniture was the gray cat.	can hiss	control	salient
Broken down on the side of the road was the school bus.	has seats	nonbiased	central
Good wine can be made from Napa Valley grapes.	are green	nonbiased	salient
The meat loaf is served with potatoes.	has skin	nonbiased	central

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
The maintenance men painted the classroom.	is square	nonbiased	salient
The soda machine only took coins.	has value	nonbiased	central
Left in the car was an old soda bottle.	is plastic	nonbiased	salient
Arthur and his wife sat around the pool.	has water	nonbiased	central
To get home from the bar, Greg took a taxi.	is yellow	nonbiased	salient
Because the team was late, they missed the airplane.	has wings	nonbiased	central
The city is planning to build a new zoo.	have cages	nonbiased	salient
The hardware store sold six different types of ladders.	have rungs	nonbiased	central
It was Bart's job to collect all of the shopping carts.	is metal	nonbiased	salient
On the corner is the city's oldest church.	holy	nonbiased	central
Bill dropped the jar of jalapenos.	red	nonbiased	salient
California is bordered by the ocean.	is water	nonbiased	central
Pat was reminded of the anniversary.	celebrated	nonbiased	salient
The United States recently normalized trade with China.	large	nonbiased	central
The experts argued about the cause of the extinction of dinosaurs.	are huge	nonbiased	salient
In the spring, building a nest was a necessity for the canary.	lays eggs	central biased	central
Caren used a funnel when replacing her car's antifreeze.	blue	central biased	salient
Arnie couldn't stand it when his neighbor practiced the cymbals.	loud	central biased	central
While in Mexico, the Damon's enjoyed the freshly made tortilla chips.	triangular	central biased	salient
At the bakery, Zack and Belinda watched them prepare the bagels.	made of dough	central biased	central
As it fell, we could hear the clatter of the armor.	silver	central biased	salient
Starting from scratch, Wanda prepared a batch of french fries.	potato	central biased	central
Neil Armstrong collected samples to bring back from the moon.	far	central biased	salient
I had to order a drink after I finished eating all of the pretzels.	salty	central biased	central
Because the meat was tough, Dan had to use a butcher's knife.	metal	central biased	salient
Looking at it in the sunlight, Phil admired the beauty of the gem.	sparkles	central biased	central
To if it could hold papers, Kate touched the scotch tape.	clear	central biased	salient
Wiping his face, Oscar didn't know how to clean off the bubble gum.	sticky	central biased	central
For a snack, Mary wanted to have a lollipop.	round	central biased	salient
To satisfy her craving, Hannah ate some M&M's.	sweet	central biased	central
With cookies, June only wanted to have some milk.	is white	central biased	salient
Larry took the steps from the kitchen to get to the cellar.	under	central biased	central
For breakfast, John only eats soft-boiled eggs.	oval	central biased	salient

Questions 4A-Experiment 4

Did Joe polish the tap shoes?
For years, has Mary not gone in the basement?
Did we admire the blooming flowers?
Do we hate the beach?
Could we not see the ball because there was a glare?
Was he painting a house?
Were they going out into the meadow?
Was the window small?
Was Hank late for work?
Was a fly climbing on the tree branch?
Did Tina write in her diary every night?
Was a slug on the rock?
Did Tom want to try his new lawn mower?
Did Meg prepare ravioli?
Did Kira fill the pot?
Did Paula really want a doll?
Does Phil eat his cereal with prunes?
Did Lance buy lemons?
Was the school bus broken down?
Does the meat loaf come with rice?
Does the machine take coins?
Was Arthur alone by the pool?
Did the team miss the airplane?
Were there six different types of ladders?
Is there a grocery store on the corner?
Is California next to the ocean?
Did the US normalize trade with Iraq?
Did the canary need to build a nest in the spring?
Did Arnie like when his neighbors practiced the cymbals?
Did Zach and Belinda watch them prepare bagels?
Was Wanda preparing a cake?
Was I eating pretzels?
Did Phil admire the gem?
Did Oscar have brownies on his face?
Did Hannah eat some M&M's?
Was Larry going to the living room?

List 4B-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
For the recital, Joe polished the tap shoes.	shiny	salient biased	salient
In Jim's hand was a piece of a candy bar.	is sweet	salient biased	central
For years, Mary hadn't gone into the attic.	dusty	salient biased	salient
Jill's mother did not want her to go skydiving.	adventurous	salient biased	central
In the spring, we admired the blooming flowers.	pretty	salient biased	salient
At the party, Cindy really enjoyed the appetizers.	are food	salient biased	central
We love to sit out on the beach.	is hot	salient biased	salient
Against the blacktop, we could clearly see the basketball.	bounce	salient biased	central
Because of the glare, we couldn't see the tennis ball.	yellow	salient biased	salient
They cut the metal to make a traffic sign.	bright	salient biased	central
He painted the model of a spaceship.	silver	salient biased	salient
A VCR is only designed to fit videotapes.	can record	salient biased	central
Before going to the meadow, we told them how to spot the bumblebees.	has stripes	salient biased	salient
Out of the boiling water dad pulled five lobsters.	claws	salient biased	central
It was a standard size window.	square	salient biased	salient
We wanted to match the cabinet knobs with the refrigerator.	cold	salient biased	central
Hank was extremely late for work because of traffic.	annoying	salient biased	salient
I wanted to get a shirt to match my jeans.	denim	salient biased	central
Kara picked flowers and cut the stems.	are green	control	salient
Sally went to the store to buy a stove.	electric	control	central
In the morning, Julie got ready and put on her necklace.	is metal	control	salient
Tom came in to the office and turned on the computer.	has screen	control	central
At the Japanese restaurant, we ate some seaweed.	is slimy	control	salient
At the zoo, we saw a warthog.	snout	control	central
In the morning, Ken put on his sneakers.	are leather	control	salient
Wendy was hiding in the bushes.	has branches	control	central
Standing on the ground, Gerry stared up at the roof.	triangular	control	salient
Perry prepared a plate of pancakes.	has grains	control	central
May went out to prepare the boat.	is wooden	control	salient
Will went on a trip to the farm.	has hills	control	central
Paul loved to play the drum.	are noisy	control	salient
For Bill's birthday, he got a cat.	has paws	control	central
At the intersection was a flashing light.	are red	control	salient
Theresa's mother bought her a new backpack.	has pouch	control	central
Pam tasted the lime.	is sour	control	salient
On a trip to Florida, Francis saw an alligator.	has scales	control	central
Broken down on the side of the road was the school bus.	is yellow	nonbiased	salient
Good wine can be made from Napa Valley grapes.	has seeds	nonbiased	central
The meat loaf is served with potatoes.	is brown	nonbiased	salient

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
The maintenance men painted the classroom.	has students	nonbiased	central
The soda machine only took coins.	are round	nonbiased	salient
Left in the car was an old soda bottle.	has volume	nonbiased	central
Arthur and his wife sat around the pool.	are square	nonbiased	salient
To get home from the bar, Greg took a taxi.	has wheels	nonbiased	central
Because the team was late, they missed the airplane.	has seats	nonbiased	salient
The city is planning to build a new zoo.	have animals	nonbiased	central
The hardware store sold six different types of ladders.	are tall	nonbiased	salient
It was Bart's job to collect all of the shopping carts.	carries	nonbiased	central
On the corner is the city's oldest church.	quiet	nonbiased	salient
Bill dropped the jar of jalapenos.	hot	nonbiased	central
California is bordered by the ocean.	is blue	nonbiased	salient
Pat was reminded of the anniversary.	is yearly	nonbiased	central
The United States recently normalized trade with China.	is far	nonbiased	salient
The experts argued about the cause of the extinction of dinosaurs.	lay eggs	nonbiased	central
In the spring, building a nest was a necessity for the canary.	is yellow	central biased	salient
Caren used a funnel when replacing her car's antifreeze.	liquid	central biased	central
Arnie couldn't stand it when his neighbor practiced the cymbals.	round	central biased	salient
While in Mexico, the Damon's enjoyed the freshly made tortilla chips.	made of corn	central biased	central
At the bakery, Zack and Belinda watched them prepare the bagels.	have a hole	central biased	salient
As it fell, we could hear the clatter of the armor.	metal	central biased	central
Starting from scratch, Wanda prepared a batch of french fries.	greasy	central biased	salient
Neil Armstrong collected samples to bring back from the moon.	rock	central biased	central
I had to order a drink after I finished eating all of the pretzels.	twisted	central biased	salient
Because the meat was tough, Dan had to use a butcher's knife.	sharp	central biased	central
Looking at it in the sunlight, Phil admired the beauty of the gem.	expensive	central biased	salient
To if it could hold papers, Kate touched the scotch tape.	sticky	central biased	central
Wiping his face, Oscar didn't know how to clean off the bubble gum.	pink	central biased	salient
For a snack, Mary wanted to have a lollipop.	sweet	central biased	central
To satisfy her craving, Hannah ate some M&M's.	round	central biased	salient
With cookies, June only wanted to have some milk.	to drink	central biased	central
Larry took the steps from the kitchen to get to the cellar.	dark	central biased	salient
For breakfast, John only eats soft-boiled eggs.	yolk	central biased	central

Did Joe polish the tap shoes?
For years, has Mary not gone in the basement?
Did we admire the blooming flowers?
Do we hate the beach?
Could we not see the ball because there was a glare?
Was he painting a house?
Were they going out into the meadow?
Was the window small?
Was Hank late for work?
Did Kara cut the weeds?
Did Julie put on her necklace?
Did we eat tofu at the Japanese restaurant?
Did Ken put on his sneakers?
Did Gerry stare up at the clouds?
Was May preparing the boat?
Did Paul love to play the piano?
Was the light flashing?
Did Pam taste a lemon?
Was the school bus broken down?
Does the meat loaf come with rice?
Does the machine take coins?
Was Arthur alone by the pool?
Did the team miss the airplane?
Were there six different types of ladders?
Is there a grocery store on the corner?
Is California next to the ocean?
Did the US normalize trade with Iraq?
Did the canary need to build a nest in the spring?
Did Arnie like when his neighbors practiced the cymbals?
Did Zach and Belinda watch them prepare bagels?
Was Wanda preparing a cake?
Was I eating pretzels?
Did Phil admire the gem?
Did Oscar have brownies on his face?
Did Hannah eat some M&M's?
Was Larry going to the living room?

FALSE SENTENCES-Experiment 4

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Karen couldn't believe that Jack thought he saw a witch.	Is square	false	false
Climbing up the wall was a large spider.	Is transparent.	false	false
Harry was running away from the cheetah.	Has stripes.	false	false
Paul was in the market to buy a new sports car	Has wings	false	false
Coming down the track was a speeding train.	Is poisonous	false	false
Gary and June went to the forest to pick some berries.	Has wheels	false	false
Randy marveled at the beauty of the moon.	Is wooden	false	false
Theresa had to stop at the store to buy some oranges.	Are plastic	false	false
Kim new if she was good, her mother would give her a cookie.	Has fur	false	false
As we were packing for the picnic, we realized we needed some saran wrap.	Is grainy	false	false
Before Jim left for work, he put in his contact lenses.	Have legs	false	false
Even in the evening, Frank always enjoyed a bowl of cereal.	Can fly	false	false
My grandfather always built beautiful birdhouses.	Is Edible	false	false
Before leaving in the canoe, make sure you have oars.	Is juicy	false	false
Leah needed to buy school supplies, especially pencils.	Are alive	false	false
For Tom's sixth birthday, his parents bought him a bicycle.	Can swim	false	false
We saw the new parents coming down the street with a baby carriage.	Has a tail	false	false
Coming towards us at high speed was a girl on roller skates.	Are crunchy	false	false
Maria was very happy that her parents bought her a new doll.	Grows on trees	false	false
In preparation for going out in the rain, Courtney pulled on her rain boots.	Are glass	false	false
After buying a soda, Melissa went to the counter to grab a straw.	Walks	false	false
Kelly looked in the closet to find a shopping bag.	Is cotton	false	false
Yolanda went to the store to buy some carrots.	Are purple	false	false
Grant was excited to be going to the circus to see the tiger.	Is rectangular	false	false
Even though she disliked most fruits, Emily loved to eat plums.	Stores things	false	false
Because it was dinnertime, Robyn decided not to eat the strawberries.	Is leather.	false	false
We didn't know what they wanted, so we bought them a vase.	Can breathe	false	false
As an addition to the house, they built a greenhouse.	Can hop	false	false
Because of the accident, Dara needed to replace the windshield.	Is yellow	false	false
Laurie pulled her car into the garage.	Has a shell	false	false
On the first day of school, Kara was assigned a locker.	Is woolen.	false	false

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
To be safe, Cory always stored his work in a folder.	Is noisy	false	false
In the fall, Debbie always goes to New England to look at the leaves.	Are dangerous	false	false
When Tim goes to Florida, he always brings baek lemons.	Are ferocious	false	false
For arts and crafts, the teacher collected a bunch of pinecones.	Are circular	false	false
Because he was lonely, the old man bought a cat.	Has feathers	false	false
Sneaking through the bushes towards the trash was a large raccoon.	Is rubber	false	false
Georgia was happy that she hadn't hit the deer.	Is green	false	false
Because Roberta wanted a pet, her mother bought her a hamster.	Is red	false	false
Kim sat on the grass and stared up at the sky.	Is slimy	false	false
Fiona rode around town in the new police car.	Is sweet	false	false
Once in a while Terry liked to go to the zoo to see the elephants.	Are sour	false	false
Before moving, the Stevens family stored many things in a warehouse.	Has skin	false	false
Shining above us was the sun.	Is black	false	false
After the rain, DeeDee was sure she would be able to see a rainbow.	Is icy	false	false
To go camping, the scout leader brought them to the state forest.	Is sticky	false	false
Off of the side of the ship, Joey spotted a whale.	Has wings	false	false
For a low-calorie snack, Vera liked to eat celery.	Can walk	false	false
For a class project, David built a robot.	Is salty	false	false
Flying in the field was the most beautiful butterfly.	Has seeds	false	false
Warren was allergic to tomatoes.	Are loud	false	false
Perry went to the restaurant and ordered some buffalo wings.	Are purple	false	false
Phil's first pet was a hermit crab.	Is silver	false	false
Strewn across the bed were hundreds of rose petals.	Are sharp	false	false
After dinner, Chuck ate a snow cone.	Is hot	false	false
On a dare, Bill tried to climb to the top of the flagpole.	Has legs.	false	false
Kim went to the department store to look for a new watch.	Is spicy	false	false
At the construction site, there were plenty of hammers.	Has hair.	false	false
In the summer, Rachel loved to go out on the lake in a speedboat.	Is tall	false	false
On the Fourth of July, Andrea's family always goes to see fireworks.	Has hinges	false	false
When eating at an expensive restaurant you should always use your napkin.	Is cardboard.	false	false
While in the mountains, the climbers always looked out for avalanches.	Are soft	false	false
To cool down the soup, Larry put in an ice cube.	Is spotted	false	false

SENTENCE	PROPERTY	SENTENCE TYPE	PROPERTY TYPE
Whenever Tracy ate Japanese food, she always ordered a large bowl of rice.	Is freezing	false	false
For Friday night dinner, mother usually prepared hamburgers.	Are liquid	false	false
The preschool teacher always washed her hands so she wouldn't spread germs.	Has pulp	false	false
While digging in the fresh soil, Marta came across a large worm.	Is reflective	false	false
With his birthday money, Zake wanted to buy a lizard.	Is metallic	false	false
On a cruise in Alaska, we only saw one penguin.	Are paper	false	false
Rich went to the pond to feed the ducks.	Are triangular	false	false
Beth was scared to go in the ocean because she was afraid of sharks.	Are extravagant	false	false
For Susan's birthday, her boyfriend bought a dozen roses.	Are noisy	false	false

QUESTIONS FALSE-Experiment 4

Did Jack think that he saw a witch?
Was Harry running from a mugger?
Was the train coming down the track?
Was Randy looking at the ceiling?
Would Kim get a cookie for being good?
Does Jim put on his glasses in the morning?
Did my grandfather build birdhouses?
Did Leah need to buy candy?
Did the new parents have a carriage?
Did Maria's parents buy her a new game?
Did Melissa buy a soda?
Did Yolanda go to buy steaks?
Does Emily dislike most fruits?
Did we buy them a plate?
Did Dara need to replace the windshield?
Was it Dawn who was assigned a locker?
Does Debbie go to look at the fall leaves?
Did a homeless man collect pinecones?
Was the raccoon sneaking towards the trash?
Did Roberta's mom buy her a snake?
Did Fiona ride in a police car?
Was it the Jones family that moved?
Was DeeDee sure that she would see a rainbow?
Did Joey see a dolphin?
Was it David who built a robot?
Was Warren allergic to peanuts?
Was Phil's first pet a hermit crab?
Did Chuck eat an ice popsicle?
Was it Kim who went to the department store?
Did Rachel love to go out on the rowboat?
Should you use your napkin at an expensive restaurant?
Did Larry put salt in his soup?
Did mother usually prepare hamburgers on Friday?
Did Marta find a little worm?
Did we see one penguin?
Was Beth scared to go in the ocean because of the jellyfish?

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